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Dahao

Computerized Embroidery Machine

B E C S – 316/366

Owner's Manual

CERTIFICATE OF CONFORMITY OF QUALITY MANAGEMENT SYSTEM CERTIFICATION

This is to certify that the quality system of
Beijing Xingdahao Technology Co., Ltd.
Is in conformity with
GB/T 19001-2000 idt ISO 9001:2000 Standard

This certificate is valid to the following product(s)/service:
Design and manufacture of computerize sewing equipment control system

Registration No.:0203Q15748R2M

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Chapter 1 General Descriptions

Thanks for using the Computerized Embroidery Control System of DAHAO Company. It is appreciated that you do read this manual carefully in order to operate the machine correctly and effectively. Besides, you should keep this manual for future use.

1-1 Warnings and Cautions

Notice	
Danger	During the operation, do not try to open the machine box. The high voltage contained in some parts can be deadliness. Rotating parts may cause serious injury.
Forbidding	Don't expose the machine to humidity gas, poisonous gas, water, and dust.
Forbidding	Don’t restore or operate in vibration, which may cause trouble to the machine.
Notice	Please abide all the warnings and safety requirements to save life.
Notice	LCD belongs to fragile goods. Do not use hard materials to click on the screen.
Notice	Before plugging in, please make sure if the lamp of floppy disk driver is on, don't move out the floppy disk..
Notice	We will add appendix if necessary, if there is any difference between the manual and appendix, subject to the appendix.
In Transportation	
Notice	Don't hold the cable when moving..
Notice	Please abide all the warnings and safety requirements to save life.
Force	Overloading may cause serious loss. Please load according to the instruction on the box..
Installation	
Notice	Don't jam the vent on the device. Don’t plug up the machine, or it may set fire.

Notice	Make sure the installation direction is correct..
Notice	Don't expose the machine to humidity gas, poisonous gas, water, and dust.
Cable Connection	
Forbidding	Don't test the insulation of the circuit loop.
Forbidding	Never try to connect overloaded electronic device on the connector.
Notice	Make sure the insulating of the cable is fine.
Notice	Communicating cable and power cable should be separated.
Notice	All the cables should be well fixed. Don't put any strength on cables. Make sure the turning point of cable is well protected. Add pipes to increase insulating capability.
Notice	Machine should be grounded. The resistance should be no larger than 10 Ω.
Operation direction	
Danger	Don't operating the machine when there is any damage on the surface..
Forbidding	When machine is running, do not touch any running part.
Notice	Make sure the configuration of power supply in normal. Use stabilized voltage power supply when the voltage rebound is between -10%~10%.
Notice	In case of warning, please check out the problem. Operation can only be carried out again when problem is solved.
Notice	The power supply has over-currency protection function. There is a 3 mins time lag before the function can be used again.
Maintenance	
Warning	If you need to open the machine cover, cut out the power supply first. Duo to the capacitance after power off, operator must wait one minute till he can open the machine cover.
Notice	Circuit boards can be damaged by static. Non-professional technician can not disassemble circuit boards.

⚠ Notice	If machine is inactive for a while, users must power on the machine regularly (once in 2 or 3 days, more than an hour for each time).
⚠ Notice	If machine is inactive for a long time, users should have the machine checked before power on.
Rejection	
⚠ Notice	Rejection should obey the rules and regulations set by national industrial electronic standards.

1-2 Main Features

1. Adjusting Speed

The main shaft speed can be changed manually, or be changed automatically with the length of stitches during embroidering.

2. Stepping Precision

The minimum of stepping precision is 0.1 mm.

3. Trimming

The machine can trim thread by pressing keyboard manually, or do it automatically during color-change or at the end of embroidering.

4. Thread Break Detect

During embroidering, the machine will automatically stop and light the red lamp if the thread is broken or is run out of.

5. Stitch Range

The stitch range is 0.1 mm- 12.7 mm.

6. Color-change Function

While processing one color-change stitch, the machine can change color manually, or change color automatically according the preset color line.

1-3 Main Functions

1. Display of Chinese, English and Spanish, display of Chinese, English and Turkish, display of Chinese, English and French, display of Chinese, English and Portuguese or Korean, English and Spanish.

User can select the software displayed in the Chinese, English, Spanish, Turkish, French, Portuguese or Korean according to his actual needs via the key board. With the figure on the keys, the systems is friendly to speakers of different languages.

2. Design Storage Capacity

The system memory can store 2000,000 stitches, which can be extended for user's order.

3. Maximum of Memory Design Count

The maximum is 200（For the various models, the pattern capacity will be different）.

4. Input pattern with Disk or U-disk

User can upload the patterns in various formats into the memory via the U-disk or the external USB Floppy driver. This product is able to read the patterns in formats of Tajima binary system, Tajima ternary system, Barudan FDR system (including binary system, ternary system and Z system) and ZSK system.

5. Output pattern with Disk or U-disk

The patterns in memory can be downloaded to the Floppy Disk and the U-disk. This product uses the Tajima binary system as the output format. The highlight of it is to use internet to transmit pattern (Some patterns in other format is unable to be transmit directly.)

6. Repetition Embroidery

The machine can increase embroidery productivity by repetition embroidery. And it can do embroidery directly in the way of usual repetition, but in the way of partial repetition, the computer must first compile the ready-for-embroidery design to one normal design and the machine then embroider the compiled normal design.

7. Cyclic Embroidery

The machine also can increase embroidery productivity by preset cyclic embroidery, by which the machine automatically starts another same embroidery when one embroidery is finished.

8. Combining Design

A new design can be formed by combining several normal designs at different size ratio, rotation angle, figure direction and relative distance, which is called combined design and has a extension name of PAR. It can be embroidered in one time.

9. Compiling Design

A. Compiling the ready-for-embroider design

After selecting a normal design and presetting the parameters (such as size ration, rotation angle, figure direction, repetition), the computer can compile the ready-for-embroider design to a new normal design.

B. Compiling the combined design

Also, one combined design can be compiled to a new normal design.

10. Editing the Normal Design

A normal design can be edit stitch by stitch (or by several amounts of continuous stitches) in full screen.

11. Patching Embroidering

This function can set a patch code after the color code or stop code, and when the machine embroiders the patch code, it will halt and move frame out for patching. After stick a patch, user would pull the operation bar to let the frame move back and continue embroidering.

12. Adjusting the Brake

For various machines, this function can make the machines stop correctly, which means that the main shaft stops at 100 degree.

13. Save and store the origin point of design

This function can save and store the start embroidering point of each design, instead of repeating moving frame manually to find the design origin when selecting the same design.

14. Mechanical maintaining and testing

This function is to easily judge the malfunctions when maintaining and testing, which consists of computer testing, encoder testing, main shaft speed testing, machine parts testing and the main shaft stops at any position, etc.

15. Some and store the embroidery parameters

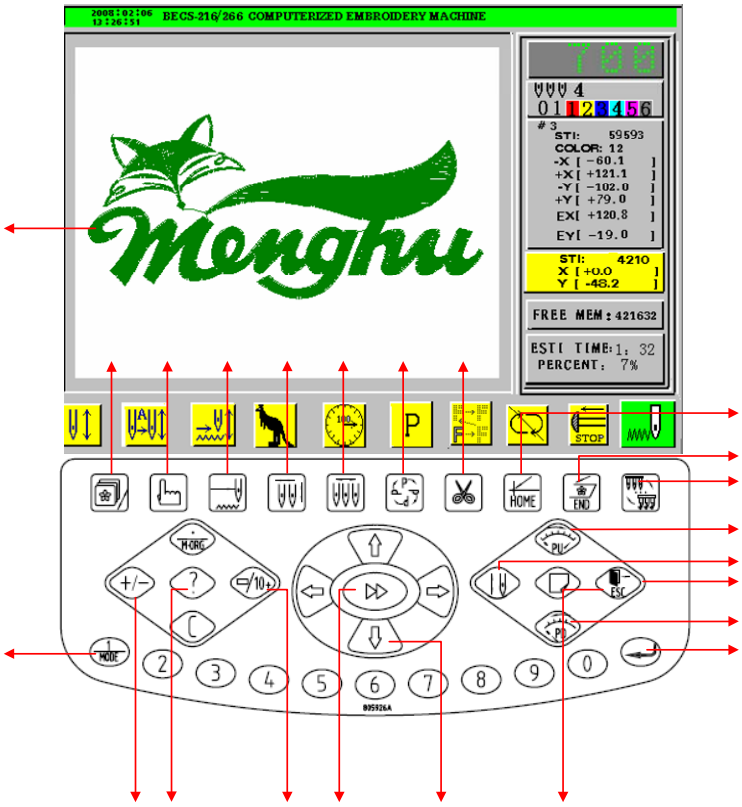
This function is to combine the design with selected embroidery parameters such as color sequence, design direction, rotation angle and repetition, etc. to reduce the times of inputting parameters when embroider the design without changing the parameters.

16. The software version of the BECS-316/366 can be upgraded by use USB disk. See Appendix I for detailed operating rules.

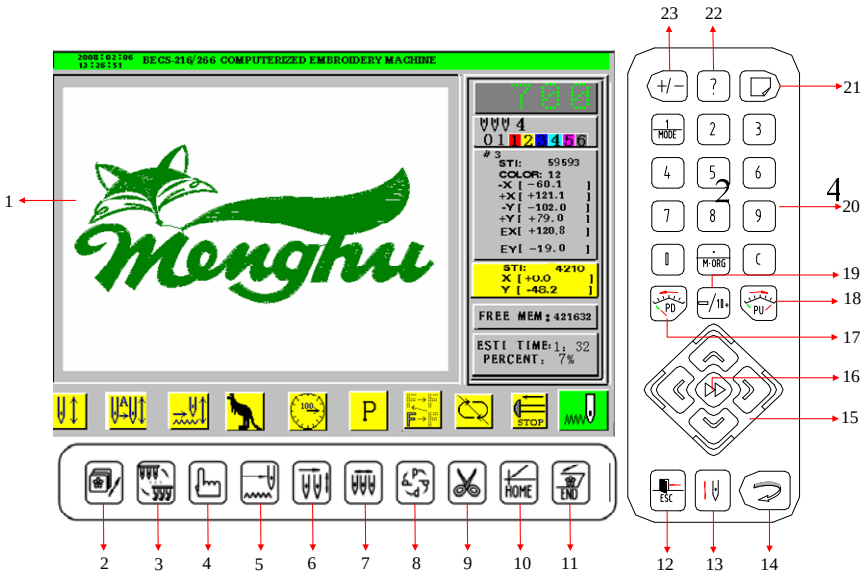
Chapter 2 Names of Parts about Electrical Control System

2-1 Operation Control Panel

Operation Control Panel is as following:



BECS-316 Operation Control Panel

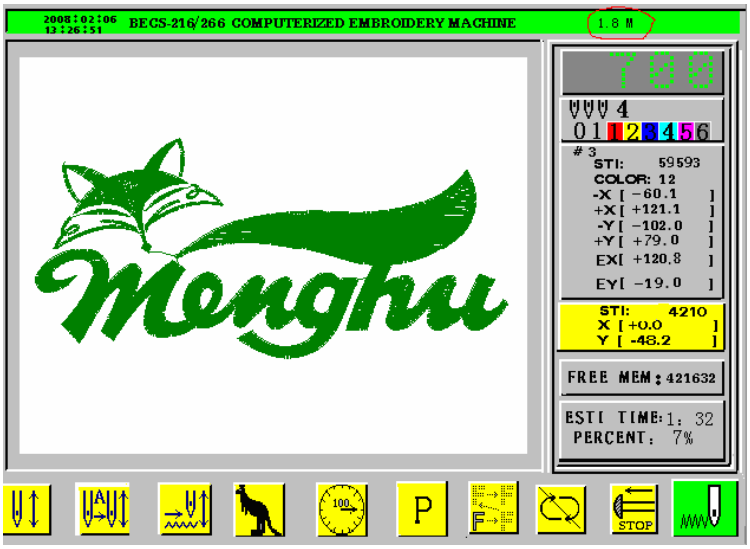


BECS-366 Operation Control Panel

Number	Name	Description
1	LCD	Displays every operation.BECS-316 type machine use 10.4 inch true color LCD, but BECS-366 use 8.4 inch.
2	Design management & Disk management	Press this key to enter into design manage window, including embroider design, input design to memory, show design, generate design, etc. Press turn page key in design manage window to enter disk management, including operations of floppy disk and USB.
3	Reserved Functions	Unused Temporarily
4	Assistant embroidery operation	Design origin, needle stops down, offset point, sequin, special embroidery, etc.
5	Switch Embroidery status	Press the key to cut embroidery status between normal embroidery, high speed idling and low high speed idling.
6	Switch color-changing mode and starting mode status	Press the key to cut manual color-changing between manual start, auto color-changing manual start and auto color-changing auto start.
7	Change color operation	Press the key to enter into change-color operation.
8	Change design direction	Press this key to shift the design direction among 8 directions.
9	Trimming	After stopping, press this key to select to trim upper or lower thread.
10	Go to start point	When the machine stops, press it, the frame will automatically return to the start point of the current design.
11	Go to stop point	When the machine stops, press the key “Manual Frame-moving” to move the frame (e.g. in case of patching). Then press this key and the frame will automatically return to the stop point of the current design.
12	Exit	To exit certain operations.
13	Change embroidery status	
14	Confirm	To confirm certain operations.
15	Manual Frame Moving	In operation the direction of frame-moving is the same as the direction key. The combination of directions is supported, namely pressing the nearby 2 direction keys will move the frame in the 45 degree between the two directions.
16	Speed Shift of Manual Frame-moving	Press this key to switch the frame-moving speed between high speed and low speed.
17	Speed adjust or turn page	Push the button to reduce the embroidering speed or turn next page.

Number	Name	Description
18	Speed adjust or turn page	Push the button to increase the embroidering speed or turn up page.
19		It is used for editing design or input needle number.
20	Digital key	It is used for selecting menu or setting parameter.
21	Embroidery information	Press the key to display embroidery information.
22	Help key	Press the key to display the help.
23	+/- shift	To show plus & minus of inputted number.

Note: If the machinery has the function of quilt sewing, LCD will display the length of quilt sewing on the upper-right side of the screen. As in the following image:



2-2 Operation Bar and Turn Shaft Button

1. Operation bar (embroidery bar under the table)

Stop status: pull the bar right to begin embroidery (including idle running in high or low speed) and pull the bar left to return (including idle running in high or low speed)

Running status: pull the bar right to the end to embroider slowly and release to normal speed and pull the bar left to stop embroidery.

2. Turn Shaft Button(over the operation bar case, on the right under the table)

To press the button to make the main shaft rotate one cycle and stop at 100°.

2-3 Darning Switch

1. Thread Break Detecting Device of 3 place

There is a switch on every head of machine. When the switch is up, this head is in normal embroidering mode and when it is in the middle, this head is in darning mode and when it is down this head is in stop mode.

2. Thread Break Detecting Device of 2 place

On every head of the machine, there is a darning switch, and it can be move with hand to the up, middle or down position, but it is stop only at the middle or down position. When the switch is pushed to up position, it can not stay at up position, and the lamp is red, which hints that this head is in darning mode. In addition, while thread breaking during embroidering, the lamp is automatically changed into red and this head is in darning mode. When the switch is at middle position, this head is in darning mode if the lamp is red, or this head is in normal embroidering mode if the lamp is green. When the switch is pushed to down position, the lamp is off, which hints that this head is in stop mode. When the switch is pushed to middle position from down position, the lamp will be green and the head is in normal embroidering mode.

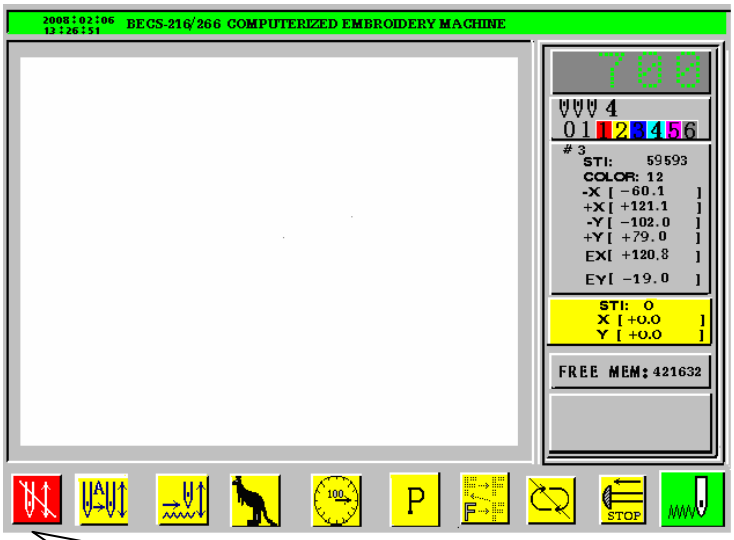
Chapter 3 How to Start Embroidery

3-1 Summary

3-1-1 System's Working Statuses

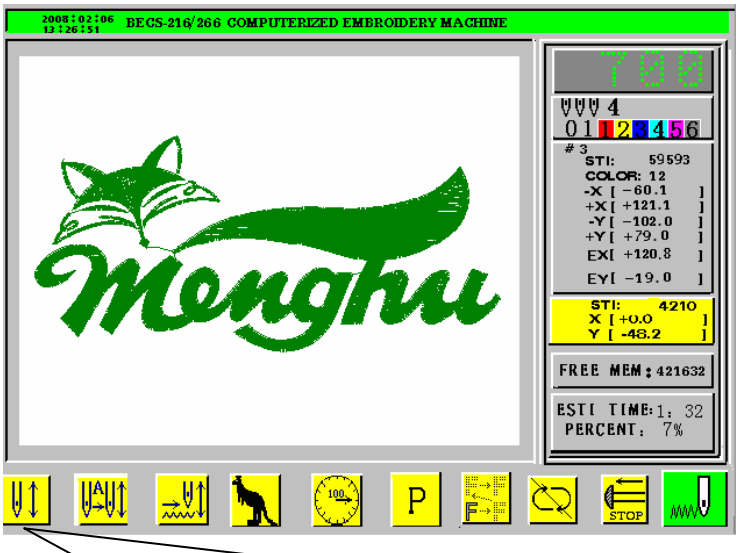
The working statuses of computer embroidery machine can be divided into 3 statuses:

1. Preparation status:



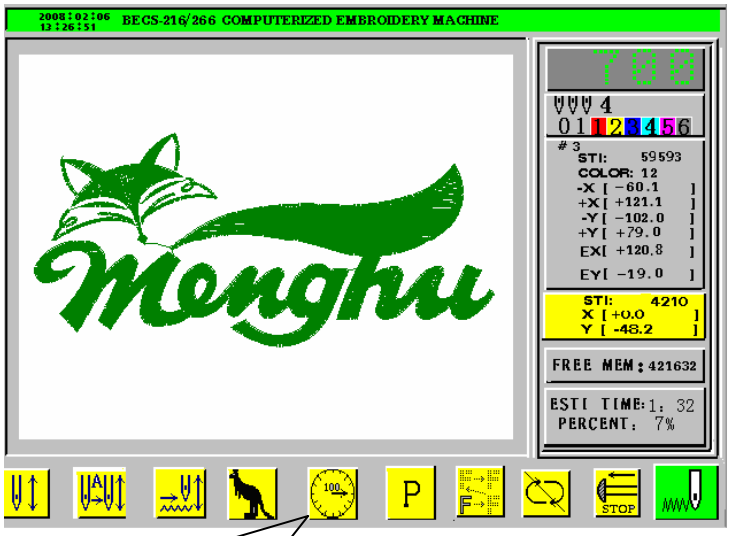
Features: machine stops and the icon " "

2. Embroidery confirmation status:



Features: machine stops, and the icon " " appears.

3. Embroidery running status



Features: machine is running, and the icons "" do animation show.

How to Switch among the above work statuses?

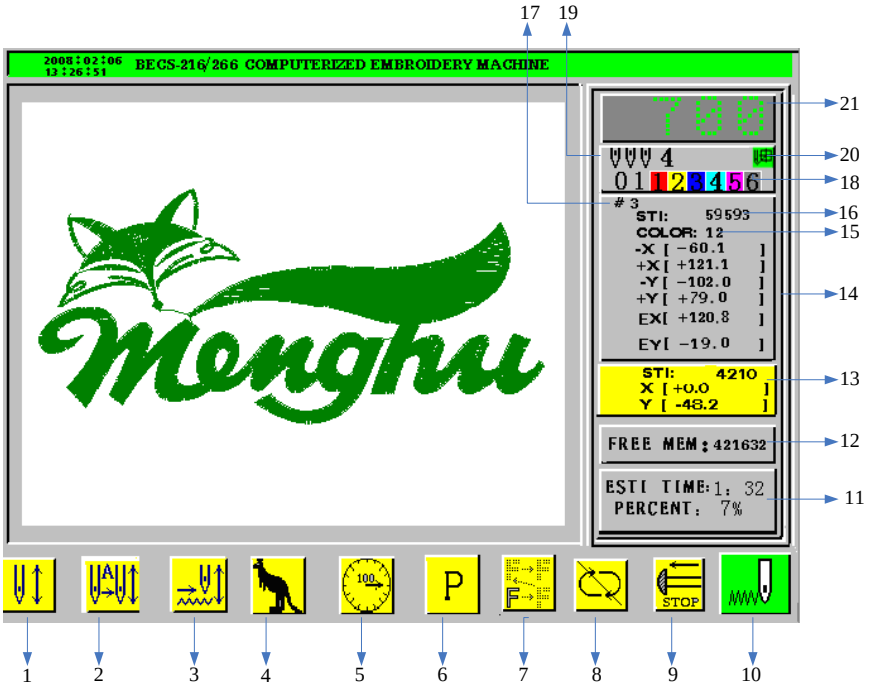
1. In preparation status, after selecting pre-embroidery design and setting the parameters, first press "" key, and then press "" key, now the machine is in embroidery confirmation status. Finally, pull the embroidery bar to right to embroider, which means the machine is in embroidery running status.

2. In embroidery running status, pull the bar left to stop, now the machine is in embroidery confirmation status (Again, pull the bar right, the machine goes into embroidery running status).

3. In embroidery confirmation status, first press "" key, and then press "" key to release embroidery confirmation status, now the machine goes into preparation status.

3-1-2 Descriptions of the Icons of the Embroidery Information

On the right of LCD on main picture, the computer shows the embroidery information as following figuration:



1. : The machine is in embroidery confirmation status.

   : The machine is in preparation status.

2. : The machine is in auto-color and auto-start mode.

   : The machine is in auto-color and manual-start mode.

   : The machine is in manual-color mode.

3. : The machine is in normal embroidery status.

   : The machine is in high-speed idling.

   : The machine is in low-speed idling.

4. : Manual frame-shifting is in high-speed.

   : Manual frame-shifting is in low-speed.

5. : The machine stops correctly (the main shaft is at 100 degree). : The machine stops wrong.

   : The animation indicates that the machine is running.

: The machine is embroidering the jump stitch.

6.

: These 8 icons display embroidery direction of design.

7.
: The embroidery design does not repeat in X or Y directions.

: The embroidery design repeats in X or Y directions.

8.
: The machine is set cyclic embroidery.
: The machine is not set cyclic embroidery.

9.
: The thread is broken.

: The machine finishes embroidering the design.

: The machine is changing color (which means changing needle).

: The user pulls the bar and the machine stops.

10. Display of the running mode

Plain embroidery

Cording embroidery

Boring embroidery

Sequin embroidery

Left coiling embroidery

Right coiling embroidery

Taping embroidery 1

Taping embroidery 2

Z1 embroidery

Z2 embroidery。

Z3 embroidery

Z4 embroidery

Z5 embroidery

Z6 embroidery

Among them, left coiling, right coiling, taping 1, taping 2, Z1, Z2, Z3, Z4, Z5 and Z6 embroideries have to be with the first needle position.

11. The anticipated working time and the working progress
12. The free memory
13. The finished stitches and the frame position
14. The design’s stitch covering area and the last stitch coordinates
15. The color-change number of embroidery design
16. In the confirmation status, the stitch number of the current design is shown .
17. In the embroidery confirmation status, the number of embroidery design is shown.
18. These data is the Automatic Color-change Sequence (or Color Line).
19. This number is the needle number.
20. : The icon indicates that the machine now has an offset point; No sign means that the machine does not have the offset point.
21. This value is the shaft speed.

Descriptions of Menu Item's Status

The user interface of computer has a lot of menus, which display the ways of keyboard operation. Usually, one number will be displayed at the front of menu item, which is the serial number of the menu item.

If the number is replaced by "⊗", the menu item can not be entered. (The parameter cannot be set or is not functional in the current setting.) If a menu item has a "◇-" before it, a password is needed to enter it.

3-1-3 How to Embroider for the First Time?

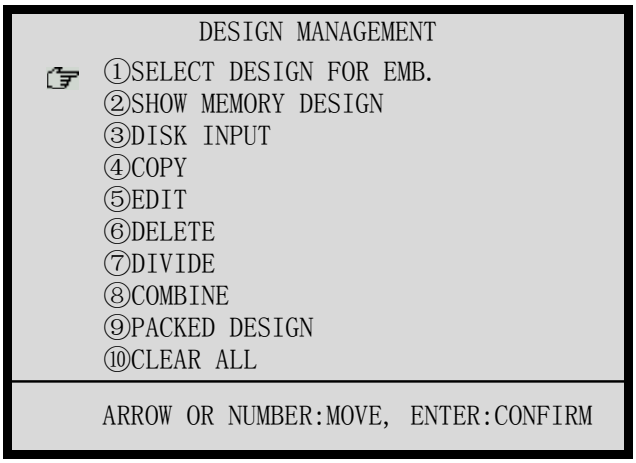
The machine embroiders according to the design in store. Before a new machine is used normally for the first time, the computer should initialize the parameters (See 12-7). Then, all designs in memory should be cleared (See Chapter 13). Again, input the desired design to memory store. After that, you can select a design in memory and confirm to embroider design. Now, the machine goes into embroidery confirm status. Finally, pull the embroidery bar to the right to start embroidering the design.

3-2 Input a Design into Memory from Floppy Disk

Reading disk design into memory can be performed both in the management of "Disk Management" and "Design Management".

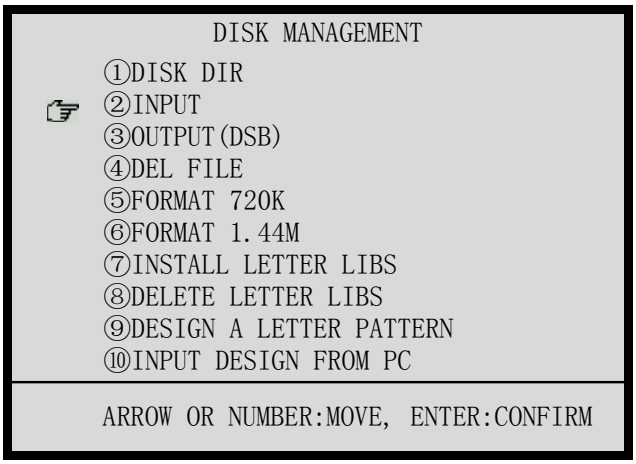
Operation 1: (by the management of "Disk Management")

1.Press " " key (in embroidery preparation status), the computer shows as following:



2.Press " "to turn page and enter disk management menu.

3.Press " "、" " or digital key"2" to move the cursor to "INPUT", and then press " " key.



4.The LCD will display the file name in floppy disk, and go on according to the prompt.

5.Select a disk design and press "↵" key.

6.The number of the design, which needs the least memory and is suggested to use, appears on the bottom of the screen. Press the key "↵" to confirm the use of it, and the machine begins to input. Otherwise you can select a desired design by the digital keys. During the process the mistakenly input number can be deleted by pressing the key "C". Press the key "↵" to confirm the design. When the input design is not compatible to an existent one, the machine will refuse to accept it and you can the key "↵" to begin a new input.

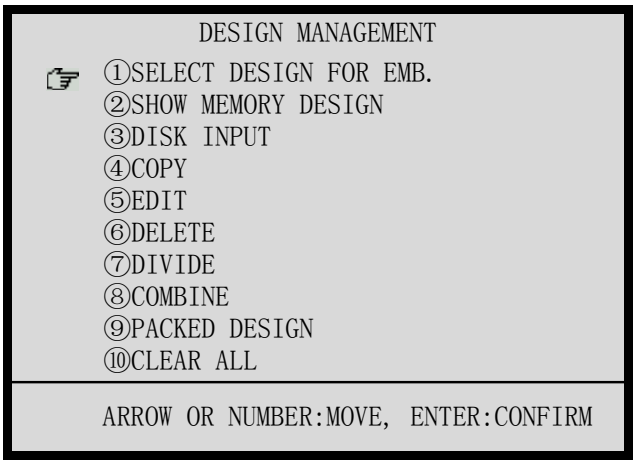
7.The display shows a prompt "to expand satin". Please choose "Yes" or "No" by the key "⇩", and then press the key "↵".

8.When you choose "Yes", the compensation value has to be input.

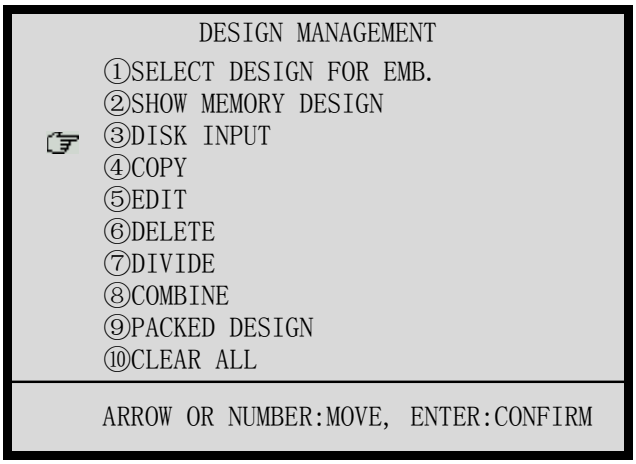
9.The design begins to be input from the disk to the system memory, and the management ends.

Operation 2: (by the management of "Design Management")

1.In the embroidery preparation status press "⭐" key, and the computer shows as follows



2.Press "⇧"、"⇩" or digital key"3" to move the cursor to "DISK INPUT", and then press "↵" key.



3.Do according to the prompts.

4.Select a design in the disk and press "↵" key.

5.The number of the design, which needs the least memory and is suggested to use, appears on the bottom of the screen. Press the key "↵" to confirm the use of it, and the machine begins to input. Otherwise you can select a desired design by the digital keys. During the process the mistakenly input number can be deleted by pressing the key "C". Press the key "↵" to confirm the design. When the input design is not compatible to an existent one, the machine will refuse to accept it and you can press the key "↵" to begin a new input.

6.The display shows a prompt "to expand satin". Please choose "Yes" or "No" by the key "⇩", and then press the key "↵".

7. When you choose "Yes", the compensation values have to be input..

3-3 Preparation before Embroidering

Setting the contents below should be finished or confirmed before embroidering in embroidery preparation status. Such as: (1) automatic color-change or manual color-change, which is to change color automatically when there is color-change code during embroidering or to change color manually after machine stops. (2) automatic start or manual start, which is to start automatically or manually after automatic color-change, and if it is automatic color-change, the color line should be set. (3) besides, it is necessary to set figure direction(see Chapter 6), the rotation angle of figure, size ratio and number of repeating embroidery.(see Chapter 12).

3-4 Select a Design for Embroidery and Confirm to Embroider the Design

1. Descriptions of Saving and Restoring Design's Origin Point

(1) The meaning of saving and restoring design's origin point

That means save the origin point of a design so that leave you away from repositioning when embroidering the same designs (there may be other design to embroider among them).

(2) The precondition of saving and restoring design's origin point

The function can be realized until the machine's zero point (or frame zero point) is set and is available (the setting method is shown in Section 12-4).

(3) The main points must be explained and noticed.

Point 1: when selecting design, there will be a prompt "NO ZERO POINT, CANNOT SAVE ORIGIN" if you have not set the machine's zero point, then, please set, and the function can be realized (see section 12-4 to know how to set the machine's zero point.)

Point 2: when selecting design, if there is a "*" behind the design number (that means the design has been saved), and if the current position is not accordant with the position been saved, then there will be a prompt: "PRESS [HOME] TO RESTORE ORIGIN", and the design's origin point can be recovered. There isn't the prompt in other case.

Point 3: we suggest you do as the following sequence if you use the function of saving and restoring the design's origin point: first, select one design, then, move the frame to find the design's origin point, and at last, confirm to embroider, save and store the design's origin point according to the prompt.

Point 4: the design's origin point that has been found by moving the frame after embroidering confirmation will not be saved and stored.

Point 5: If the design's origin point has been saved and stored, it can be helpful to the power resume function. When power off and the frame has been moved, and when the design's origin point is available (if not available, set the machine's zero point again and ensure that it is same as before), release embroidery confirmation status and select the same design and recover the design's origin point, then confirm to embroider, and do high-speed idling to the stop point, finally continue embroidering.

2. Explanations about saving and storing embroidery parameters.

When confirming to embroider a design, the machine can save and store the design parameters for later use. The parameters are: design direction, angle of rotation, X scale, Y scale, priority mode, repetition mode, repetition times, frequency of X repetition, frequency of Y repetition, X repetition distance, Y repetition distance and color-change sequence (can store/recover the first 100 color numbers).

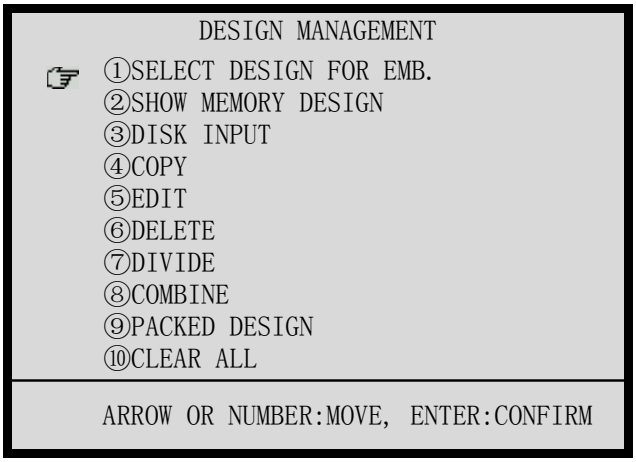
If the design parameters of a design have been saved, then when selecting the same design, it can recover the design parameters automatically.

This function is very applicable when embroidering the same design repetitiously without changing the design parameters, so that it can reduce the times of inputting parameters and reduce the operation mistakes.

3. Select a design for embroidery

Operation:

(1) Press " " key (in embroidery preparation status), the computer shows as following:



(2) The cursor is at "SELECT DESIGN FOR EMB.", and press " " key.

(3) LCD displays the memory designs, and automatically display the figure of design at

which the cursor is. If the count of designs is more than 10 , you can use "", "" key to turn to other pages.

(4) According to the prompt, press "", "" to move the cursor to select one design, and press "" key.

(5) If the computer has saved the set parameters of this design and the current parameters are different from them, the prompt is "RESTORE PARAMETERS?", and you can select "YES" or "NO" with "", "" keys and "" key to decide whether the computer restore the saved parameters.

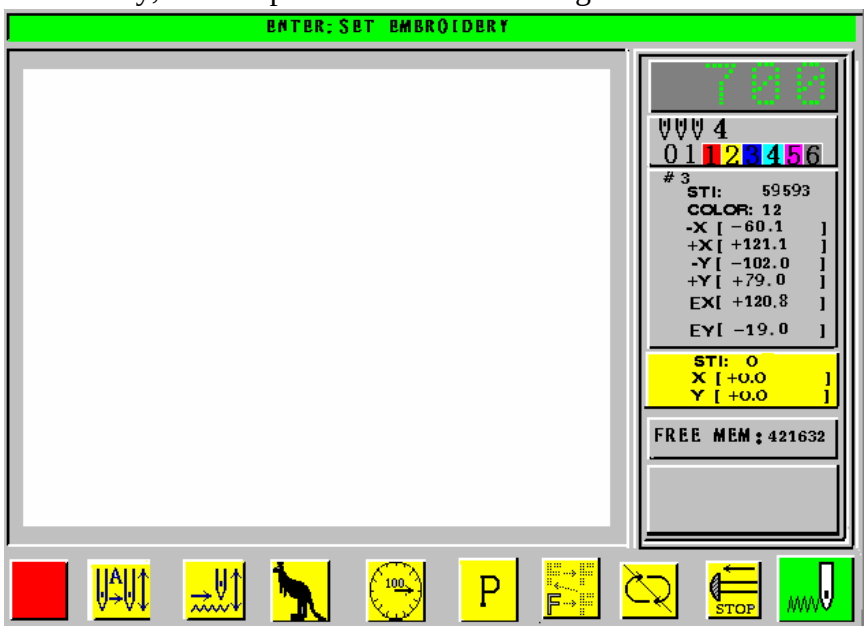
(6) Press "" key to select the design for embroidering, or other key to give up this operation.

(7) After selecting the design for embroidering, the computer will prompts: “PRESS [HOME] KEY TO RESTORE ORIGIN” if the origin point of this design has saved into the computer, users can press “” key to move the frame to the saved origin point, or press other keys to escape.

4. Confirm to embroider a design

Operation:

(1) Press "" key, the computer shows as following:



(2) Press "" key to confirm embroidery, or press other key to escape.

(3) If the design origin point is not saved or the saved origin point is not the same with

the frame position, the computer will prompts: “PRESS [HOME] KEY TO SAVE ORIGIN”, users can press “HOME” key to save the origin point, or press other keys to escape.

(4) If the computer has not saved the set parameters of this design or the saved parameters are different from current parameters, the prompt is "SAVE PARAMETERS?", and you can select "YES" or "NO" with "⇧"、"⇩" keys and "↵" key to decide whether the computer save the current parameters.

(5) In the main picture, the icon "⇓↕" appears and the machine enters into the embroidery confirmation status. Now, you can pull the bar to start embroidery.

3-5 Normal Embroidering, Returning and Darning Embroidering

In embroidery confirmation status (the icon "⇓↕" appears), push the darning switch of machine head that will perform normal embroidery to go to the normal embroidering mode, and push the darning switch of machine head that will not embroider to go to the darning mode, and then pull the operation bar to right and release it to let the machine start normal embroidery. (when you pull the bar right and don't release it , the machine will embroider in lower speed.) During embroidering, pull the bar left, the machine will stop.

After the machine stops, pull the operation bar to left and the frame will return to its last position along original path. Pull the bar one time, the frame return one needle step. Pull the bar continuously and the frame will return one needle step after another continuously. After the frame return 10 needle steps continuously, the frame can return continuously even when you release the bar.(This may be different according to different machine types). When the frame return continuously, release the bar and pull it left again, the frame will stop returning.

The aim of returning is usually to perform darning embroidery. After the returning stops, push the darning switch of machine head that will perform darning embroidery to go to the darning mode, and then pull the operation bar to right and the machine head will start darning embroidery while other heads don't. When the frame goes to the point where the frame begins to return, other heads whose darning switches are in normal embroidering mode will start to embroider.

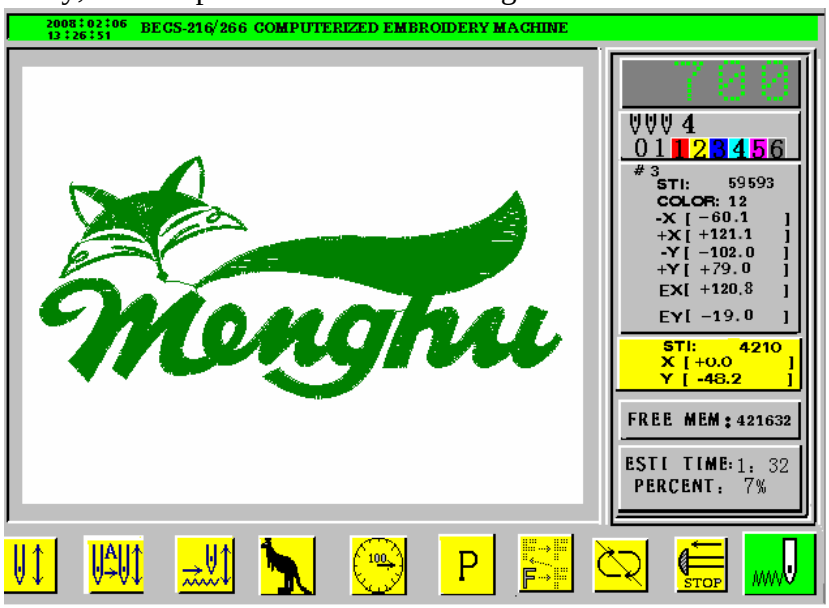
3-6 Release Embroidery Confirmation Status

You should release embroidery confirmation status when you want to embroider other designs after finishing embroidering one design or to revise size ratio, rotating angle, the repetition, figure direction, or to do the management of "Disk Management" and "Design

Management".

Operation:

(1) Press "[icon]" key, the computer shows as following:



(2) Press "[icon]" key to release embroidery confirmation status according to the prompt (or press other keys to abandon), and then enter into the embroidery preparation status (the icon "[icon]" blinks.).

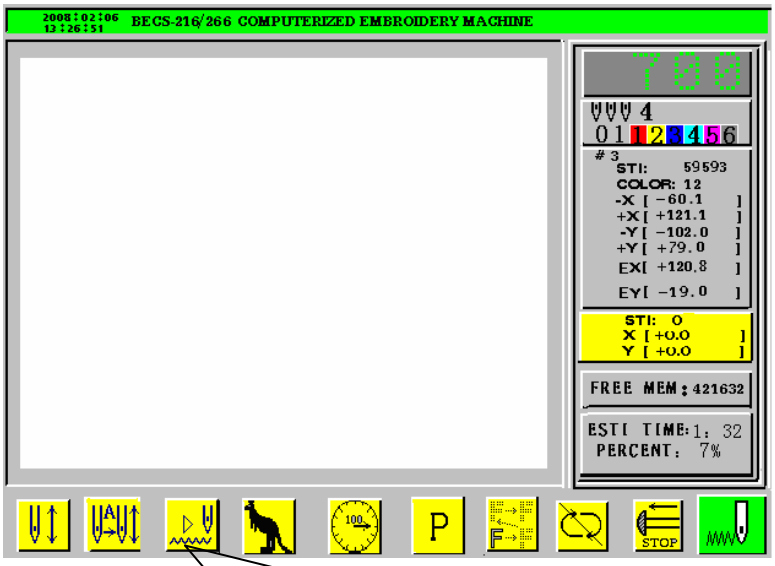
Chapter 4 Normal Embroidery and Idling

4-1 Relations between Normal Embroidery and Idling

Functions as idling, returning, etc. are intended for the convenience of darning. Low-speed idling, high-speed idling or positioning idling can be used in the light of different positions. In the states of idling, the returning also cover low-speed idling returning, high-speed idling returning and positioning idling returning.

4-2 Low-speed Idling

Operation: Press " " key when machine stops until the following display appears:

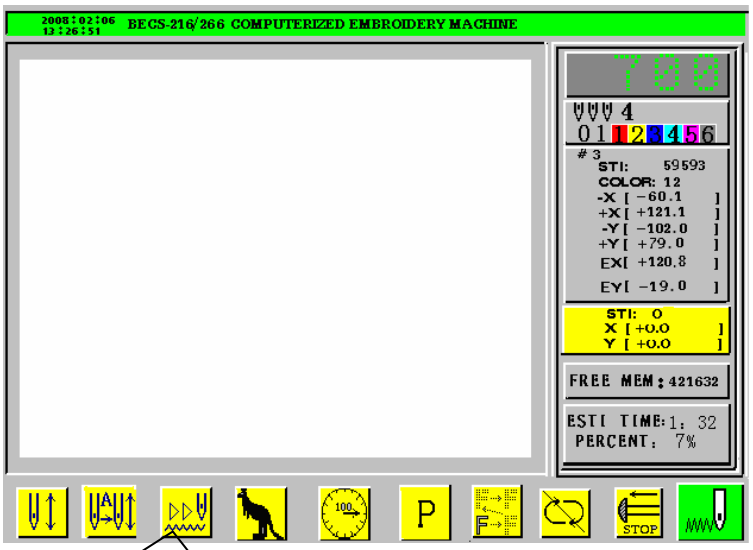


The icon " " appears.

After setting low-speed idling, the main shaft remains inactive when pulling bar for normal embroidery, but the frame runs forward along the stitch trace. When pulling bar for returning, the main shaft keeps inactive, but the frame returns along the stitch trace.

4-3 High-speed Idling

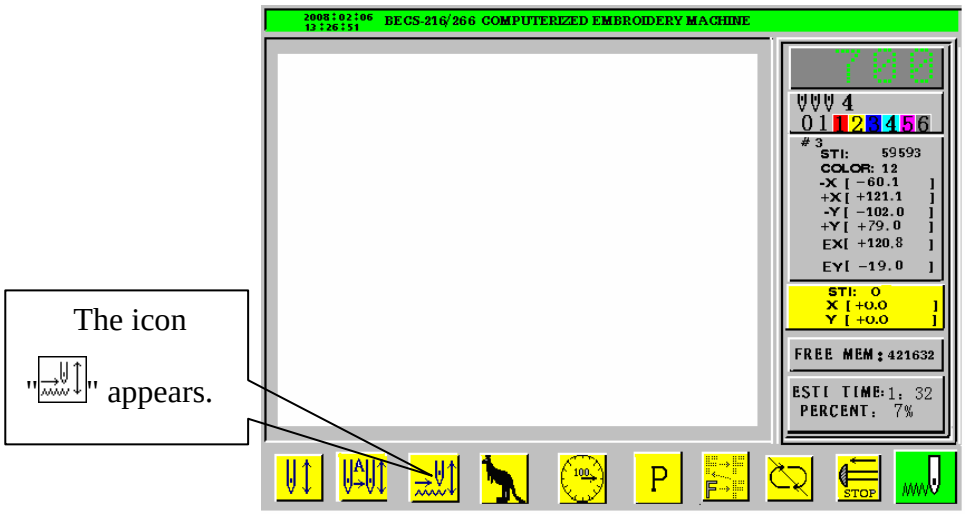
Operation: Press " " key when machine stops until the following display appears:



After setting high-speed idling, the main shaft and frame remain inactive, the count increases based on a unit of 100 stitches. After pulling the bar for halting, the frame moves directly to the actual position of the current count. When pulling bar for returning, the main shaft and frame keep inactive, but the count decreases. After pulling the bar for halting, the frame returns directly to the actual position of the current count.

4-4 Release of Low-speed/High-speed Idling

Operation: Press "" key when machine stops until the following display appears:



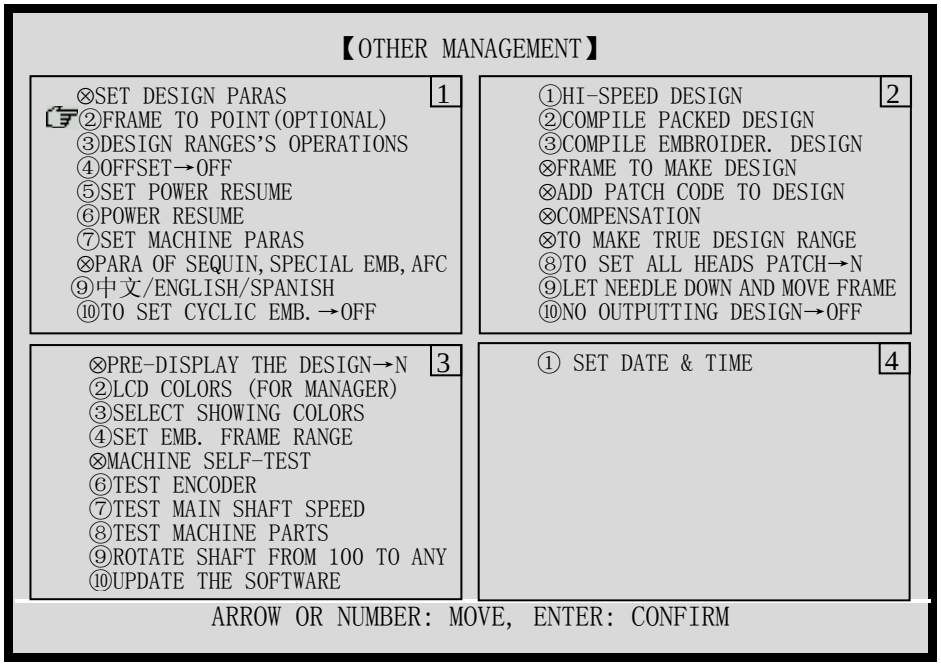
This is the state of normal embroidery.

4-5 Positioning Idling

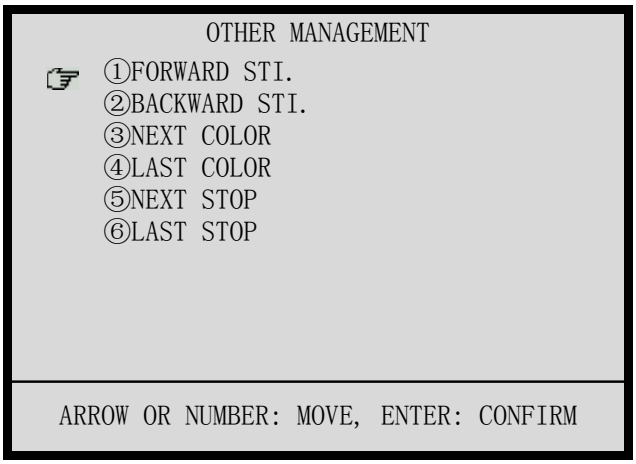
The positioning idling can make the frame directly runs forwards (or backwards) to an assigned counting position, or to a latest color-change position, or even to a latest stop-code position.

Operation:

(1) Press "[⌂]" key (in embroidery confirm state), the menu appears as following:



(2) Press "[⇧]"、"[⇩]" or digital key "2" to move the cursor to "FRAME TO POINT (OPTIONAL)", and then press "[↵]" key. The positioning idling menu displays as following:

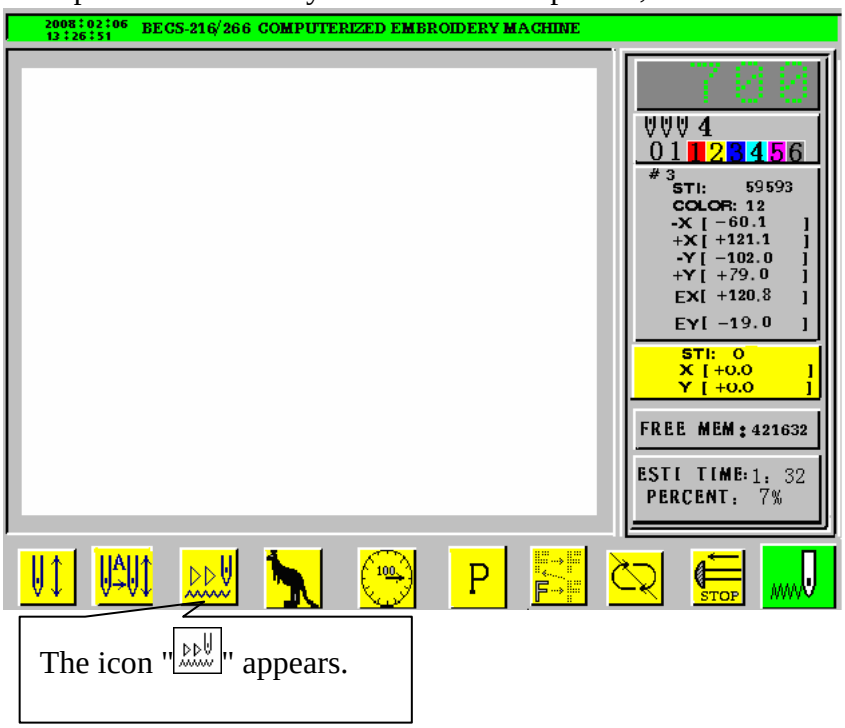


(3) Press "[⇧]"、"[⇩]" key to select the desired positioning idling, and then press "[↵]"

key.

(4) Continue the operation for different positioning idling according to the prompts respectively.

(5) The computer automatically exits to the main picture, which is as following:



(6) The user can pull the bar to finish the positioning idling.

(7) Finally, the user can press “ ” key to let the computer to go to normal embroidery status.

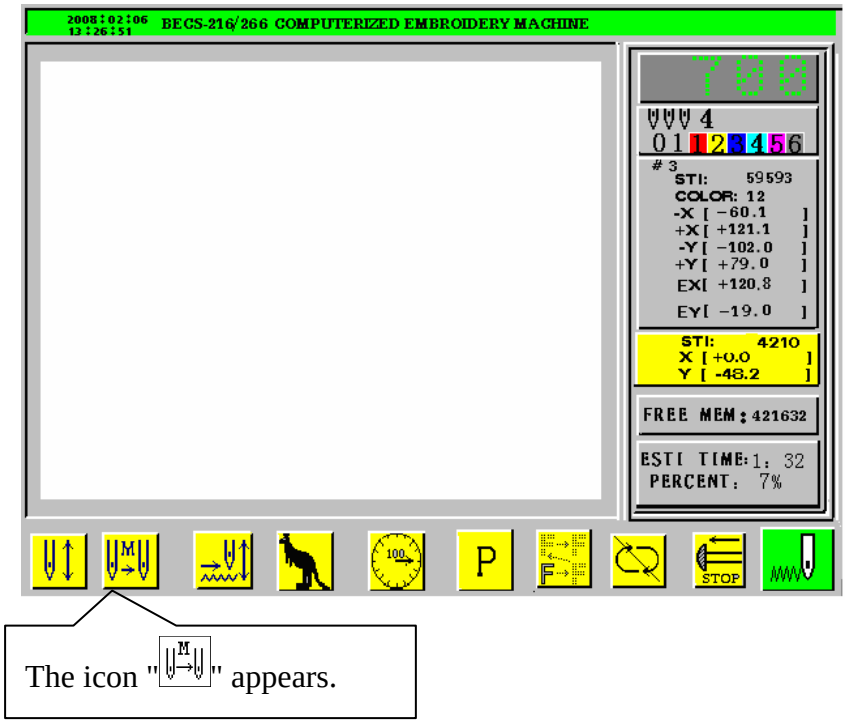
Chapter 5 Color-change Management

5-1 Manual Needle-change (Color-change) when Stop

Press the digital key to carry out manual color-change when the machine stops.

5-2 Manual Color-change and Manual Start during Embroidering

To set manual color-change and manual start, the user just presses " " key until the main picture is as following.

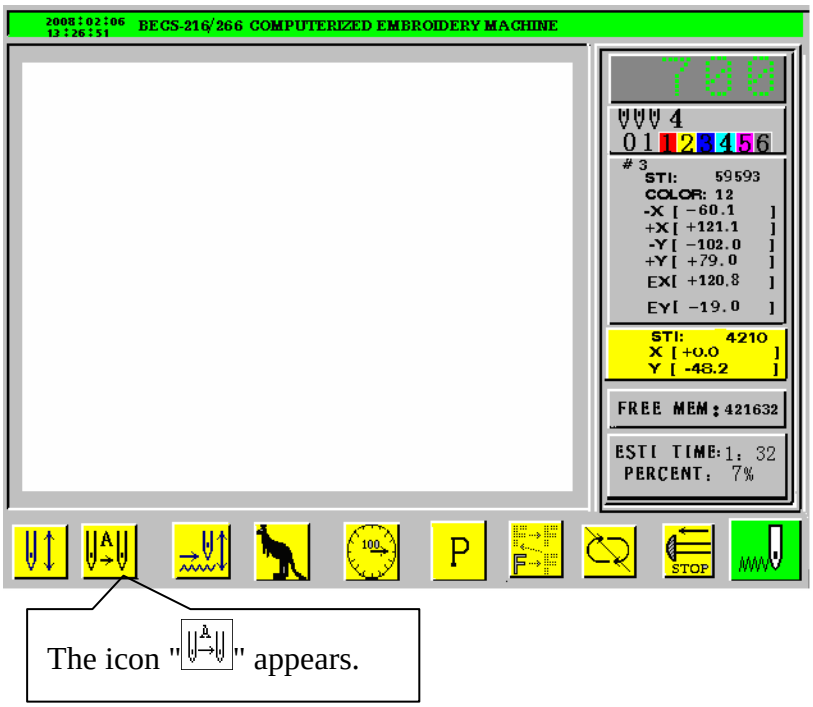


If the machine is set into manual color-change and manual start, manually perform the color-change and select the first needle position before starting embroidering operation, then pull bar to start embroidery.

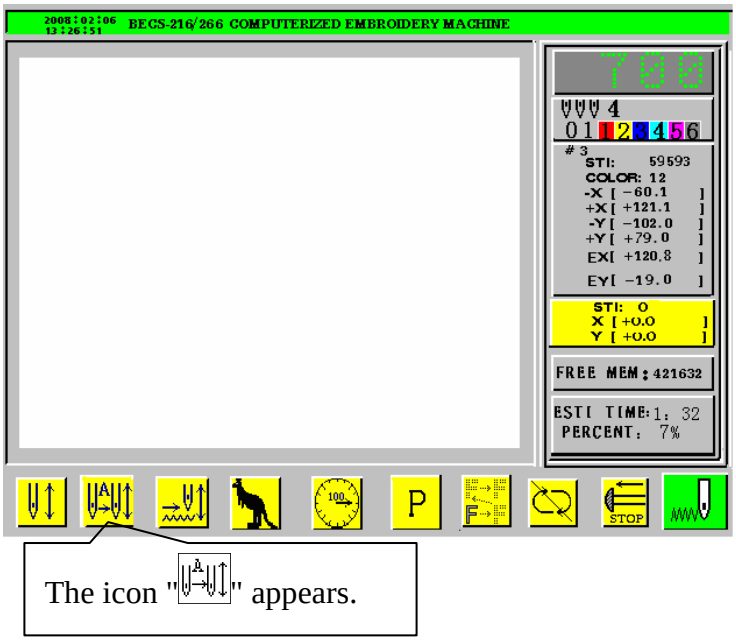
When the color-change code is processing during embroidering operation, the machine will halt automatically and the icon " " appears for manual color-change. At the moment, the operator should press the digital key to carry out manual color-change. After the required needle position having been set, pull the operation bar to start embroidery (manual start).

5-3 Automatic Color-change and Manual Start (or Automatic Start) during Embroidery

To set automatic color-change and manual start, press " " key until the main picture is as following.



To set automatic color-change and automatic start, press " " key until the main picture is as following.



If the machine is set into automatic color-change, the color-change sequence (or be called color line) should be set in advance before the embroidery confirmation status.

When pulling the operation bar to start embroidery, the computer will carry out color-change according to the needle position set in the color line (excluding the condition that the current needle position conforms to the needle position set in the color line), then start embroidering.

When the color-change code appears during embroidering, the machine will automatically halt and change to the assigned needle position according to the needle number set in the color line. In case of setting as automatic start, the machine will automatically continue embroidering, whereas setting as manual starting, the operator must pull the operation bar to start embroidering.

If the machine set as automatic color-change and automatic start and an over-frame operation (set in the design file) follows the current color-change, the machine will perform the two actions at the same time.

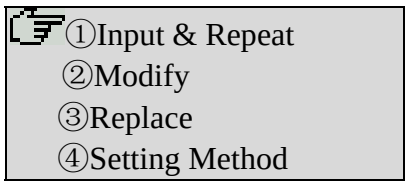
5-4 Setting Automatic Color-change Sequence (or Color Line)

The automatic color-change sequence is intended for the machine that has been set as automatic color-change, and offers automatic color-change sequence.

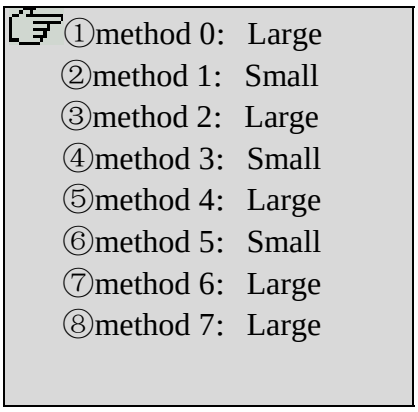
Note: the times of changing color is 250 at most.

Operation:

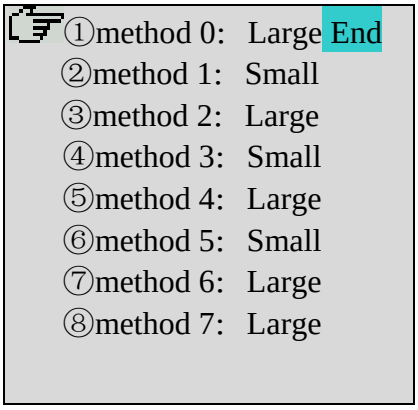
1. Press "[icon]" key, then appears:



2. If press “1” and "[↵]" key, then input color line, for example: 1,2,3,and "[↵]". All after that the color line will repeat like this: 1,2,3,1,2,3,1,2,3…
3. If press “2” and "[↵]" key, then you can move the cursor to modify the needle selected individually. Press [enter] to end.
4. If press “3” and "[↵]" key, then you can modify the color line in whole by switching the needle number.
5. (Only available in special model)Sequin setting: If press “4”and " " key, then appears:



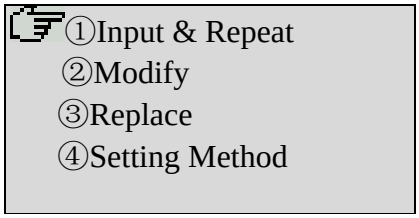
（1） Press "↵" key, follow the prompt "⇩" or "⇧" key to select large or small （sequin design）, press "↵" key, then appears:



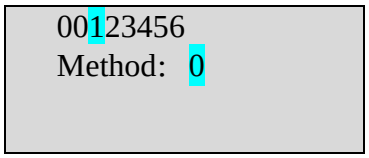
（2）Press "⇩" or "⇧"to select （Include: "A"、"B"、"C"、"D"、"AB"、"AC"、"AD"、"BC"、"BD"、"CD"、"ABC"、"ABD"、"ACD"、"BCD"、 "ABCD" etc.）, then press "↵"key, system prompts to input a number for the method, then press"↵"key. System will prompt to change another method. Operation is as same as above. Select to end setting the method.

6. (Only available in special model)When you decide the order of color changing，you can select stitch position and different methods. Operation is as following:

(1) Press "▦" key, then it appears:



(2) The icon stays at①, press "↵"key, then press the digital numbers one by one. When you input the stitch position (for example, you select the 1st position for sequin embroidery), the screen will display like:



(3) Press "⇩" or "⇧"to select the set method of step（2）, then press "↵". System prompts to input the next color-change position, then press the digital numbers one by one, then press the color changing position, press "▦" or "↵" to finish.

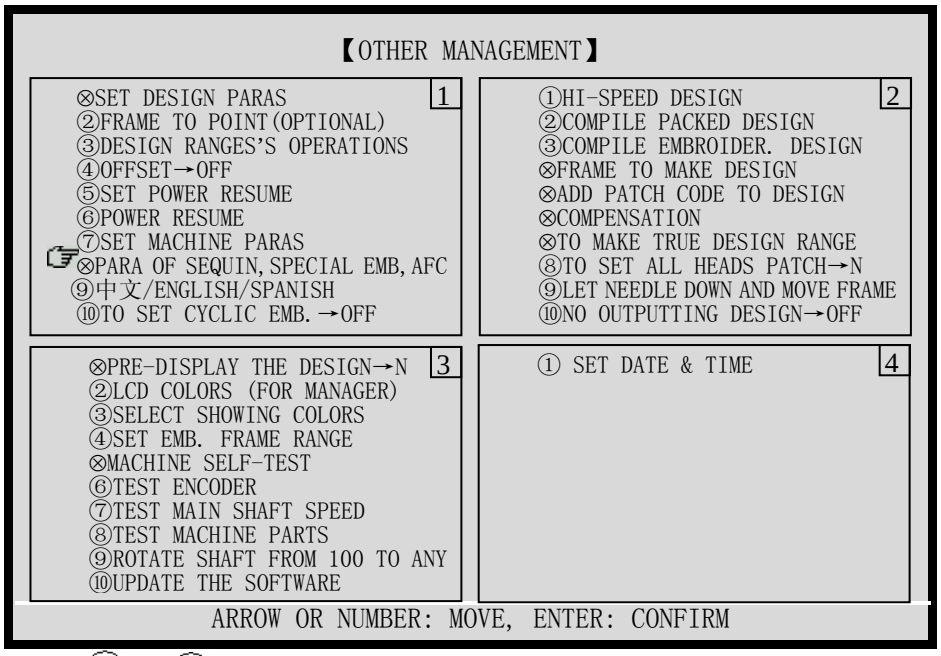
5-5 Storing the Manual Color-change Number into Color Line

In embroidery confirmation status, if the machine carries out manual color-change, the computer will store the manual color-change number into color line or not according the setting of "STORE MANUAL-COLOR". It functions as following: A) During embroidering, if one number in color line is wrong, you can execute the manual color-change, and then the computer will automatically store the correct number into color line. B) If you embroider a new design first time and you can not decide the color line, you can set the color line using the setting of " STORE MANUAL-COLOR ".

After finishing embroidering a design, the machine automatically change the setting of "STORE MANUAL-COLOR" to "No".

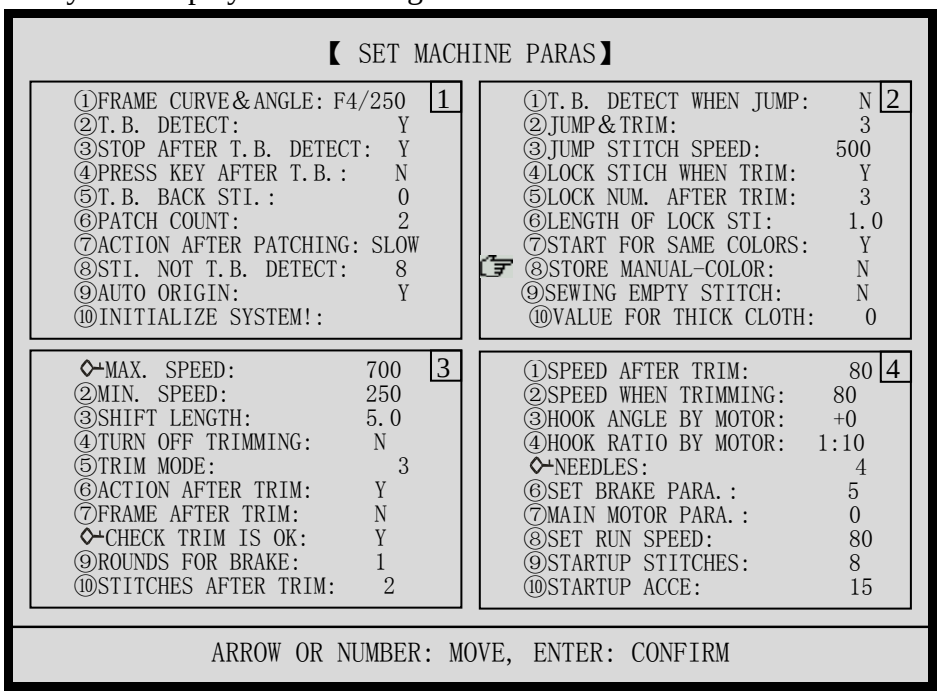
Operation:

(1) Press "⌐" key, the menu appears as following:



(2) Press "⇧"、"⇩" or digital key "7" to move the cursor to "SET MACHINE PARAS", and then press "↵" key.

(3) The system displays as following:



(4) Press "⇧"、"⇩" or digital key "9" to move the cursor to "STORE MANUAL-COLOR ", and then press "↵" key.

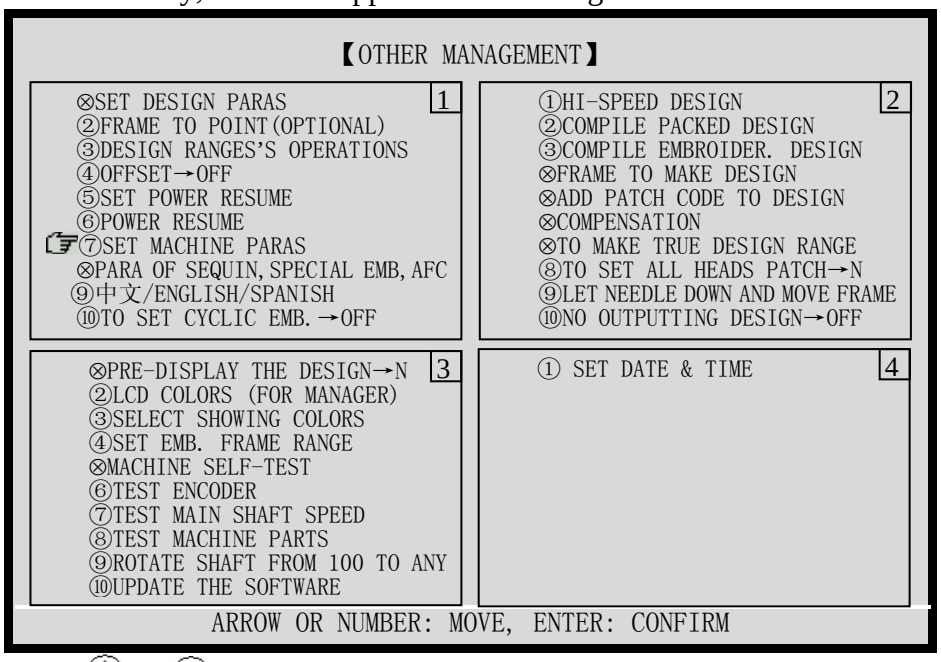
(5) Press "⇧"、"⇩" key to select "Y" or "N".

(6) Press "↵" key.

5-6 The Color-change Speed

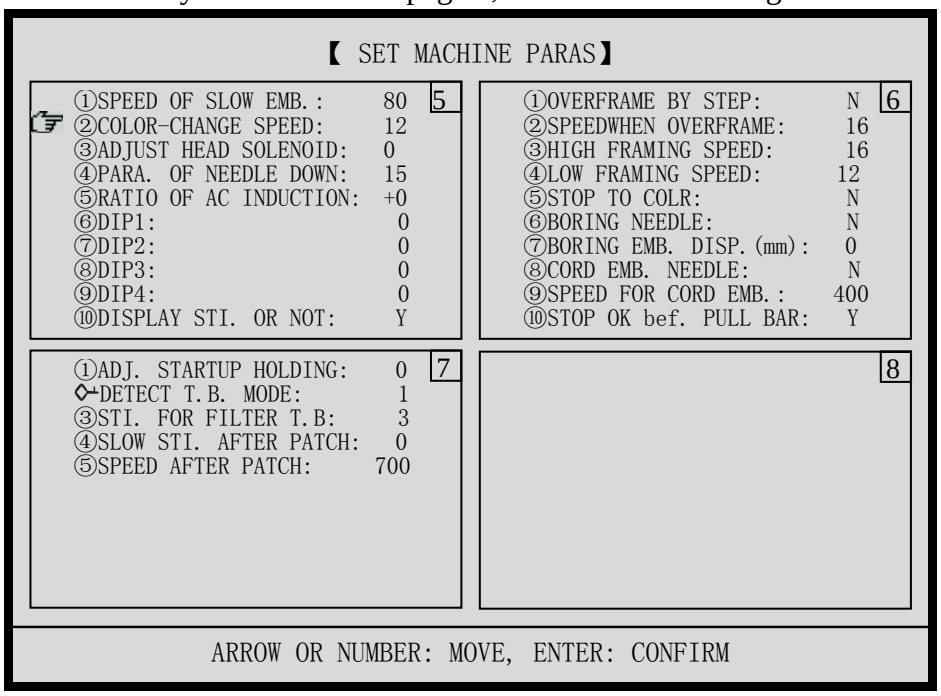
The color-change speed can be adjusted for the specific machine, which execute the color-change operation by stepping motor. The speed adjusting is for meeting the need of different mechanical characteristic.

(1) Press "[⌨]" key, the menu appears as following:



(2) Press "[⇧]"、"[⇩]" or digital key "7" to move the cursor to "SET MACHINE PARAS", and then press "[↵]" key.

(3) Press "[PD]" key twice to turn to page 3, which is as following:



(4) Press "⇧"、"⇩" or digital key "9" to move the cursor to "COLOR-CHANGE SPEED", and press "↵" key.

(5) Press "⇧"、"⇩" key to select the data, and greater data represents higher speed.

(6) Press "↵" key.

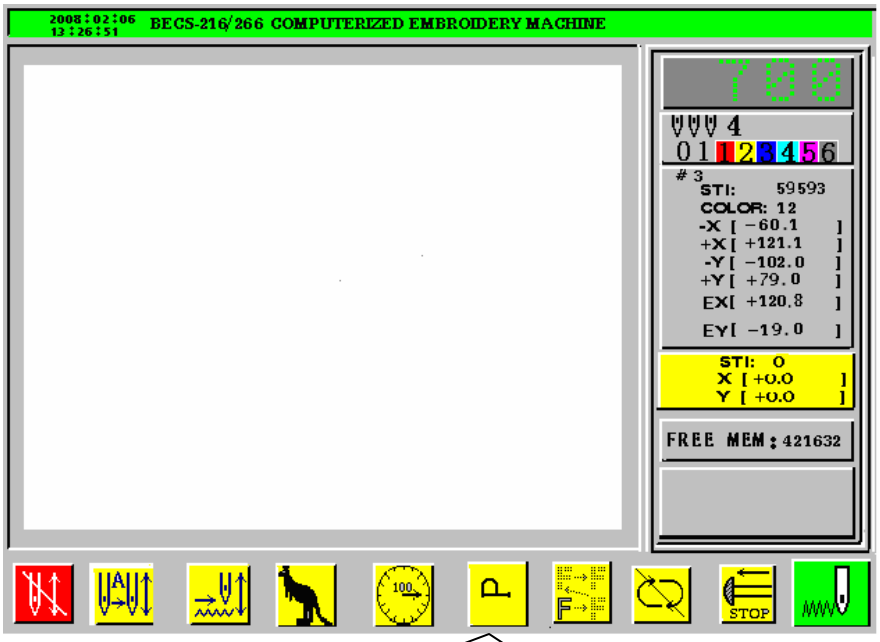
Chapter 6 Setting Design Direction

Before embroidery confirmation, you can set the design direction for embroidering. When the display of design direction is “P”, the design embroidering direction is identical to its original direction. Take the embroidering of letter “F” as an example to explain the relations between the embroidered design and the design direction:

Design Direction	P	ɑ	d	ɒ	q	σ	b	ɑ	P
Embroidered Pattern	F	Ⅎ	ⅎ	ᒣ	ᒧ	ᒥ	Ⅎ	ⅎ	F

Operation:

In embroidery preparation status, press " " key to change the design direction until the desired direction is selected.



Chapter 7 Frame Management

7-1 Manual Frame Shifting

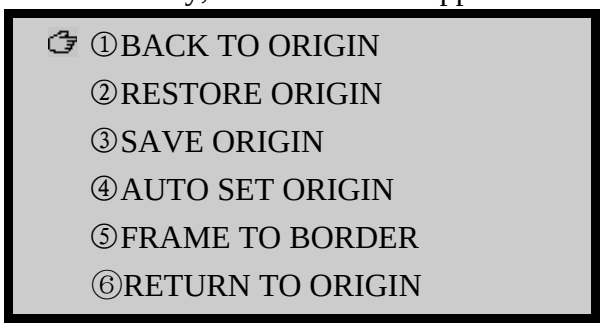
Press eight direction keys: "⇦", "⇨", "⇧", "⇩"... to make the frame shift in eight different directions respectively. The "⏩" key is the speed-switching key of frame shifting. The frame-shifting speed is divided into high-speed and low-speed. When pressing the "⏩" key, the speed is changed.

7-2 Returning to Origin Point

With this function, the frame can return back to the position before manual frame shifting. When machine stops halfway or embroidering finished, the frame can return back to the starting point of design with this function.

Operation:

A. Press "HOME" key, the menu frame appears as follows:



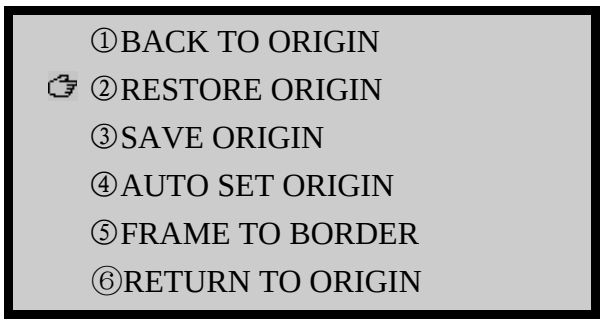
B. Press "↵" key to confirm the operation, or press "ESC" key to quit.

7-3 Restore Design's Origin Point

If the origin point of this design has been saved into the computer, this function could restore the saved origin point for embroidering the design.

Operation:

A. Press "HOME" key, the menu frame appears as follows:



B. Press "⇩" or "2" key to move the cursor to " RESTORE ORIGIN", and then press "↵" key to continue.

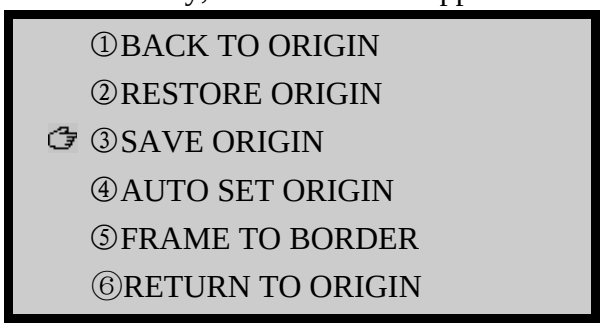
C. The computer will prompts: "PRESS [HOME] KEY TO RESTORE ORIGIN", and you can press "HOME" to move the frame to the saved origin point. Otherwise, press any other key.

7-4 Save Design's Origin Point

This function could save the origin point for the design.

Operation:

A. Press "HOME" key, the menu frame appears as follows:



B. Press "⇩" or "3" key to move the cursor to " SAVE ORIGIN", and then press "↵" key to continue.

C. The computer will prompts: "PRESS [HOME] KEY TO SAVE ORIGIN", and you can press "HOME" to save the origin point. Otherwise, press any other key.

Note: If the origin stays unchanged, then you only need to "SAVE ORIGIN" once, then you can "RESTORE ORIGIN" at any time you want.

7-5 Automatically Set the Origin Point

Based on the function of "Setting the Embroidery Frame Range" (For details, see the relative sections of the Owner's Manual), this function would calculate the origin point for the selected design, and move the frame to the new origin point, which will make the design at the center of frame.

Operation:

A. Press "HOME" key, the menu frame appears as follows:

①BACK TO ORIGIN
②RESTORE ORIGIN
③SAVE ORIGIN
④AUTO SET ORIGIN
⑤FRAME TO BORDER
⑥RETURN TO ORIGIN

B. Press "⇩" or "4" key to move the cursor to " AUTO SET ORIGIN", and then press "↵" key to continue.

C. The computer will prompts: "PRESS ENTER TO CONTINUE", and you can press "↵" key to move frame to the new origin point, which let the design at the center of frame. Otherwise, press any other key.

D. Attentions: This function doesn't do the function of "Save Design's Origin Point", in case of clearing the last origin.

7-6 Moving Frame along the Border

After selecting the design but before starting embroidery, the frame will run along the periphery for checking whether it exceeds the limits.

Operation:

A. Press "HOME" key, the menu frame appears as follows:

①BACK TO ORIGIN
②RESTORE ORIGIN
③SAVE ORIGIN
④AUTO SET ORIGIN
⑤FRAME TO BORDER
⑥RETURN TO ORIGIN

B. Press "⇩" or "5" key to move the cursor to " FRAME TO BORDER", and then press "↵" key to continue.

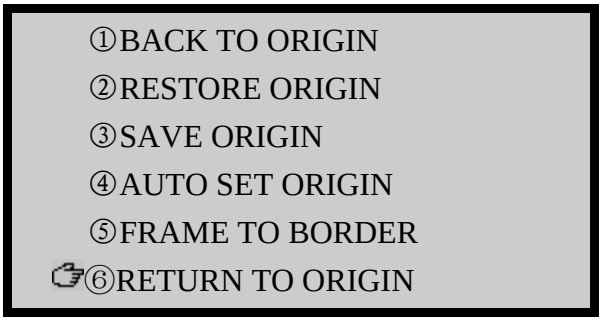
C. The computer will prompts: "FRAME ALONG DESIGN RANGE!", and you can press "↵" key to move frame along the border. Otherwise, press any other key.

7-7 Returning to Origin

This function is used in quilt sewing. The operator can prevent the cloth from moving by letting the needle dowm, then roll the cloth to keep on embroidering.

Operation:

(1) Press "HOME" key, following image appears:



(2) Press "⇩" or digital "6" key, move the cursor to "RETURN TO ORIGIN", then press "↵" key.

(3) Prompt shows "PRESS ENTER!", then press "↵" key to returning to the origin point or press other key to escape.

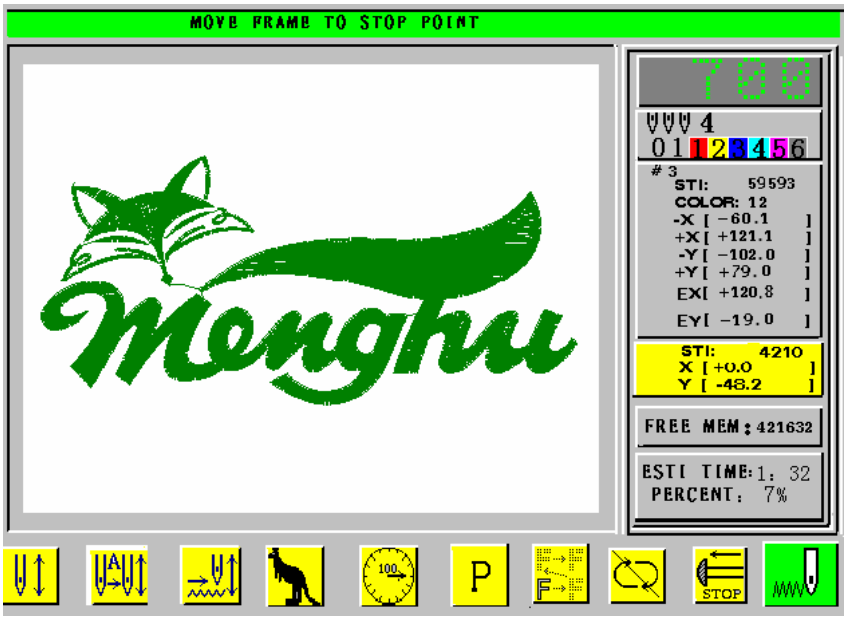
7-8 Returning to the Stop-embroidery Point

After halting in the halfway of embroidering operation, press the manual frame-shifting key to shift the frame out (for darning). After the completion of darning, this function can make the frame return to the stop-embroidery point.

Operation:

(1) Press the manual frame-shifting key to shift the frame out (for darning).

(2) Press "END" key, the main picture appears like this:



(3) Press "↵" key to confirm the operation, or press other key to quit.

Chapter 8 Embroidery Speed (Main Shaft Speed)

In the process of embroidery, the main shaft speed of the embroidery machine will change by computer according to the stitch length of design. The low speed is intended for long stitch embroidery, whereas high speed for short stitch. However, users can set the limit speed, what is called “SETTING LIMIT SPEED”. The highest embroidery speed can increase or decrease within the limit speed.

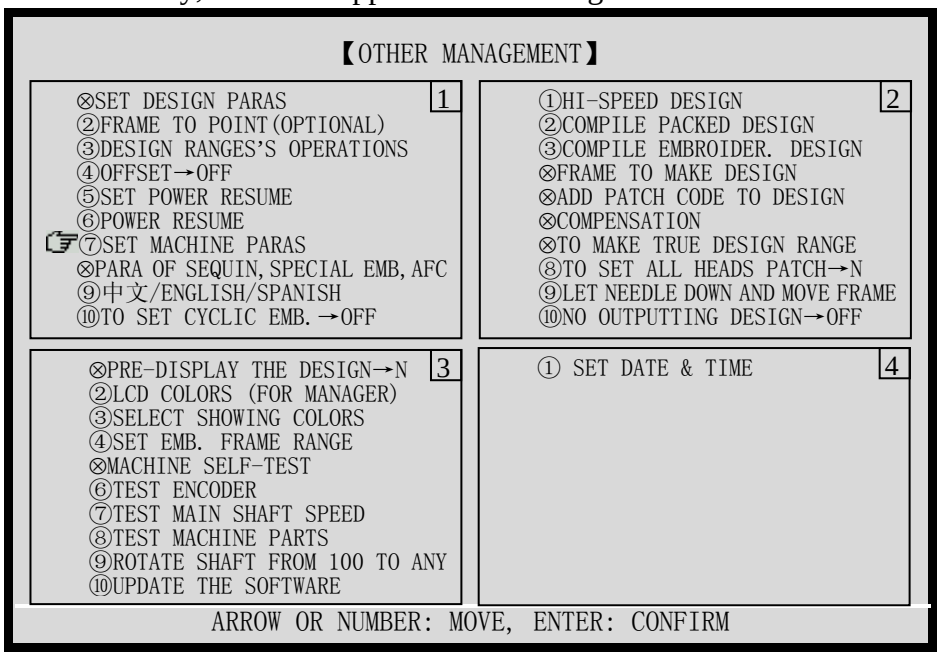
The limit speed ranges from 250 rpm to 1000 rpm. User can select the limit speed and do not need superabundance. For example: in normal using is 850rpm, then set in 850rpm.

8-1 Setting the Limit Speed

This setting specifies the limit value for the highest embroidery speed.

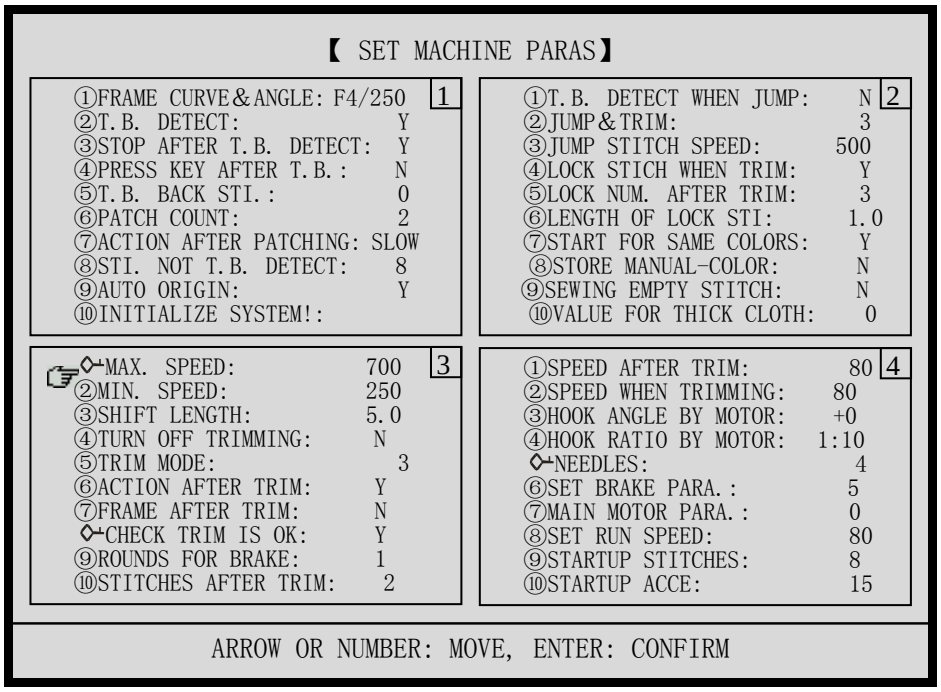
Operation:

(1) Press " " key, the menu appears as following:



(2) Press " "、" " or digital key "7" to move the cursor to "SET MACHINE PARAS", and then press " " key.

(3) Press " " key to go to page 2, which is as following:



(4) Press "⇧"、"⇩" or digital key "2" to move the cursor to "MAX. SPEED", and press "↵" key.

(5) Press "ESC" to end the operation.

(6) Press "ESC" to go to the main picture.

NOTE: The factory default value is recommended for the limit speed.

8-2 Setting Embroidering Speed

It specifies the running speed during embroidering operation.

Operation:

(1) Press "" key. When pressing once the key, the speed will raise 10 rpm. When having been reached the limit speed, the speed will not raise any more.

(2) Press "" key. When pressing once the key, the speed will reduce 10 rpm. When reducing to 250 rpm, the speed will not reduce any more.

Chapter 9 Trimming Thread

9-1 Automatic Trimming Thread

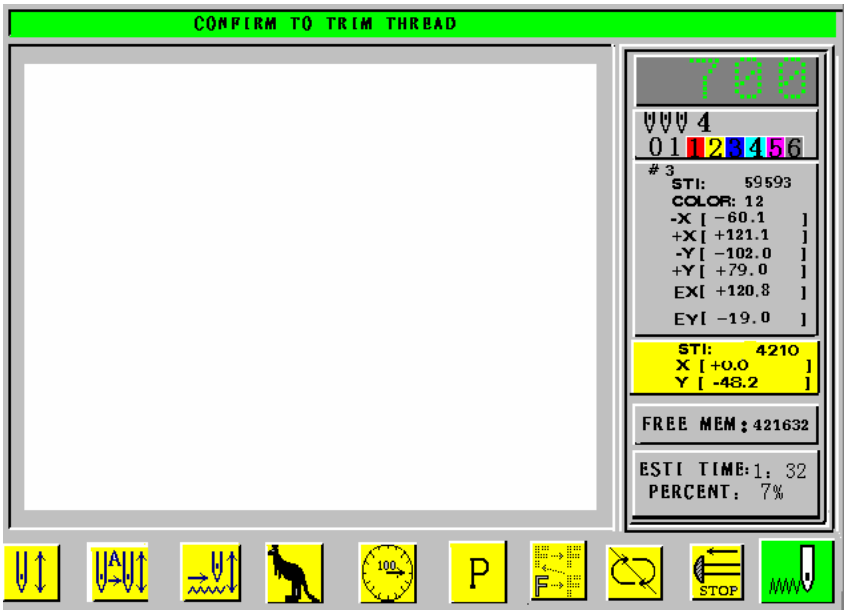
When operation such as color changing, frame jumping, etc. are required in embroidery, as well as at the end of embroidering, the machine can trim thread automatically.

9-2 Manual Trimming Thread

This function can be executed by pressing several keys.

Operation:

(1) Press " " key, the main picture appears as following:



(2) Press " " key to trim thread, or press other key to quit.

Chapter 10 Disk Management

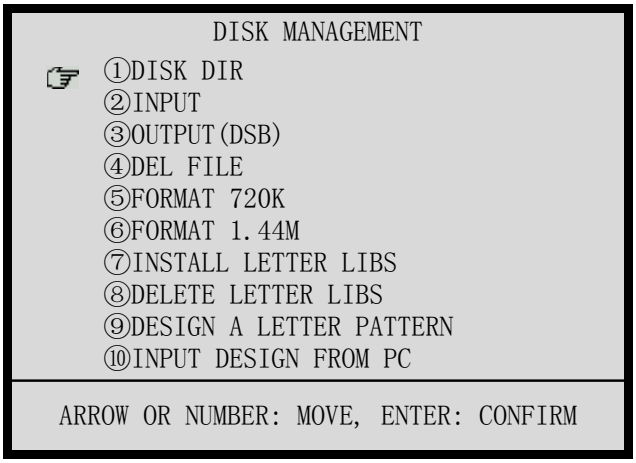
Note: The pattern operations mentioned herein are mainly to the U-disk. If you are the user of floppy disk, please buy the USB Floppy driver, an optional part.

10-1 Directory Listing of Disk

This operation is able to view the design stored in disk, as well as file name, file length and free space of disk.

Operation:

(1) Insert the design disk into floppy disk driver, and press "" key to enter the design management menu, then press ""to turn page and enter disk management menu appears as following:



(2) The cursor will be at "DISK DIR", press"" key.

(3) The LCD will display the file in floppy disk. If the file count is greater than 10, you can press ""or "" key to turn to other pages.

(4) Press ""、"" key to select the design, and press "" or "" key to view it. During the viewing, you can press "" or "" key to vary the display speed. Press "" to end the display.

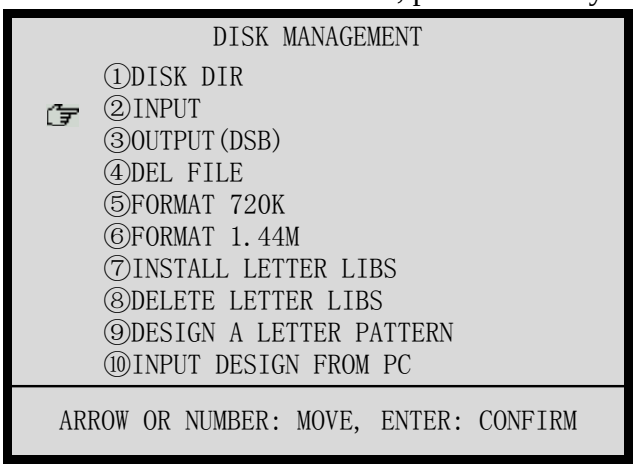
(5) Press "" or "" key to quit the disk operation.

10-2 Input Design from Disk to Memory

Operation:

(1) Insert the design disk, and press "" key to enter the design management menu, then press ""to turn page and enter disk management menu. Press ""、"" key or

digital key "2" to move the cursor at "INPUT", press"↵" key.



(2) Press "⇧"、"⇩" key to select the design (you can press "□" key to view it and press "ESC" to end), and press "↵" key.

(3) At the bottom of LCD, the computer will show the minimum available number of design (recommended for use). If you use it as the new design number, press "↵" key to confirm, and then begins the disk reading operation. If disagreeing to use the design number, press digital keys to enter the design number you want. In the event of having error in entering numeral, press "C" key to clear it. After entering the design number, press "↵" key for setting. When there is any conflict between the entered design number and the design number existed in memory, the machine will refuse to accept this entry; therefore you should enter another design number and press "↵" key. After the design number having been proved to be correct, then begins to read the design from disk to memory. Upon the completion of design reading, it will return to the disk management menu.

(4) Press "ESC" or "⚙" key to quit the disk management.

10-3 Output Design from Memory to Disk

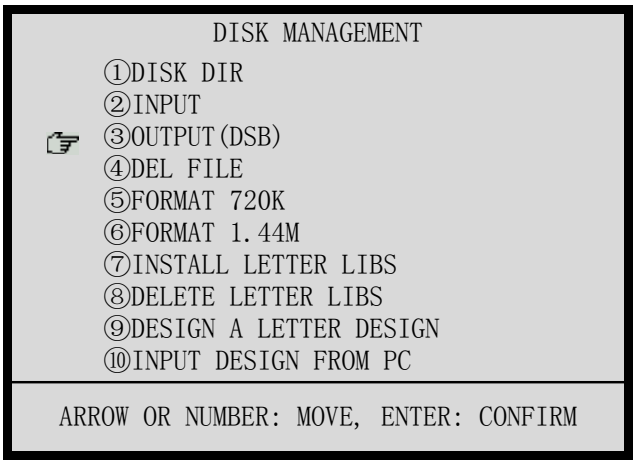
It stores the design in memory to disk in a binary format. Coordinating to the use of "Input Design from Memory to Disk", this function is able to complete the operation of copying a design from a disk to another disk.

When the computer has set "NO OUTPUTTING DESIGN" to "Yes", the operator should first set it to "No" before he output design from memory to disk. For details, see chapter 25.

Operation:

(1) Insert the design disk, and press "⚙" key to enter the design management menu,

then press "[icon]"to turn page and enter disk management menu. Press "[icon]"、"[icon]" key or digital key "3" to move the cursor at "OUTPUT(DSB)", press"[icon]" key.



(2) Press "[icon]"、"[icon]" key to select the memory design, and press "[icon]" key.

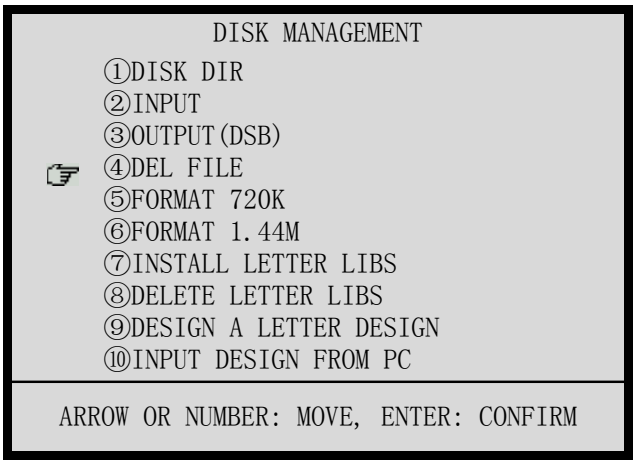
(3) Press digital keys to enter the disk file name, press "[icon]" key to begin saving the design into disk (or press "[icon]" key to give up the operation). After finishing the save, the disk management menu appears.

(4) Press "[icon]" or "[icon]" key to quit the disk management.

10-4 Deleting the Design in Floppy Disk

Operation:

(1) Insert the design disk, and press "[icon]" key to enter the design management menu, then press "[icon]"to turn page and enter disk management menu. Press "[icon]"、"[icon]" key or digital key "4" to move the cursor at "DEL FILE", press"[icon]" key.



(2) Press "⇧"、"⇩" key to select the design (you can press "□" key to view it), and press "↵" key to delete the design or press "ESC" to give up.

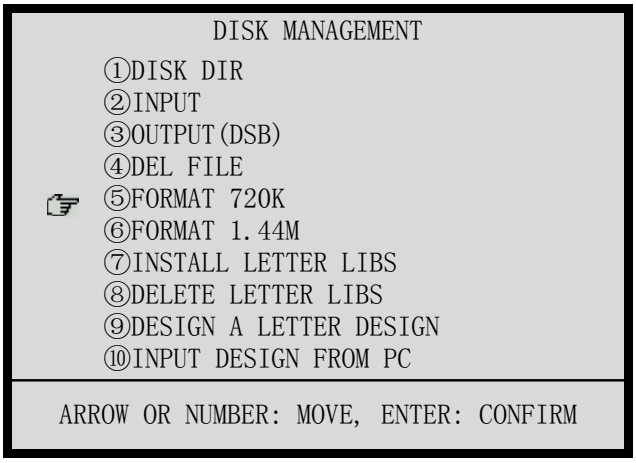
(3) Press "ESC" or "⚙" key to quit the disk management.

10-5 Formatting a 720KB Disk

It carries out formatting of a double density 3.5 inch disk in DOS format.

Operation:

(1) Insert the design disk, and press "⚙" key to enter the design management menu, then press "⚙"to turn page and enter disk management menu. Press "⇧"、"⇩" key or digital key "5" to move the cursor at "FORMAT 720K", press"↵" key.



(2) Press "↵" key to format disk (or press "ESC" to give up), after finishing the operation, the disk management menu will appear.

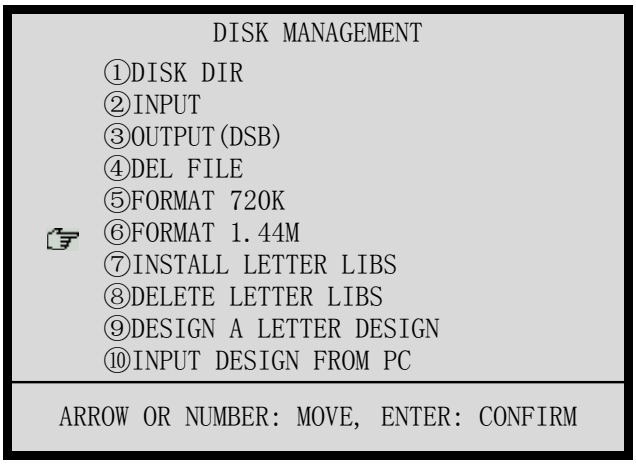
(3) Press "ESC" or "⚙" key to quit the disk management.

10-6 Formatting a 1.44MB Disk

It carries out formatting of a high density 3.5 inch disk in DOS format.

Operation:

(1) Insert the design disk, and press "⚙" key to enter the design management menu, then press "⚙"to turn page and enter disk management menu. Press "⇧"、"⇩" key or digital key "6" to move the cursor at "FORMAT 1.44M", press"↵" key.



(2) Press "↵" key to format disk (or press "ESC" to give up), after finishing the operation, the disk management menu will appear.

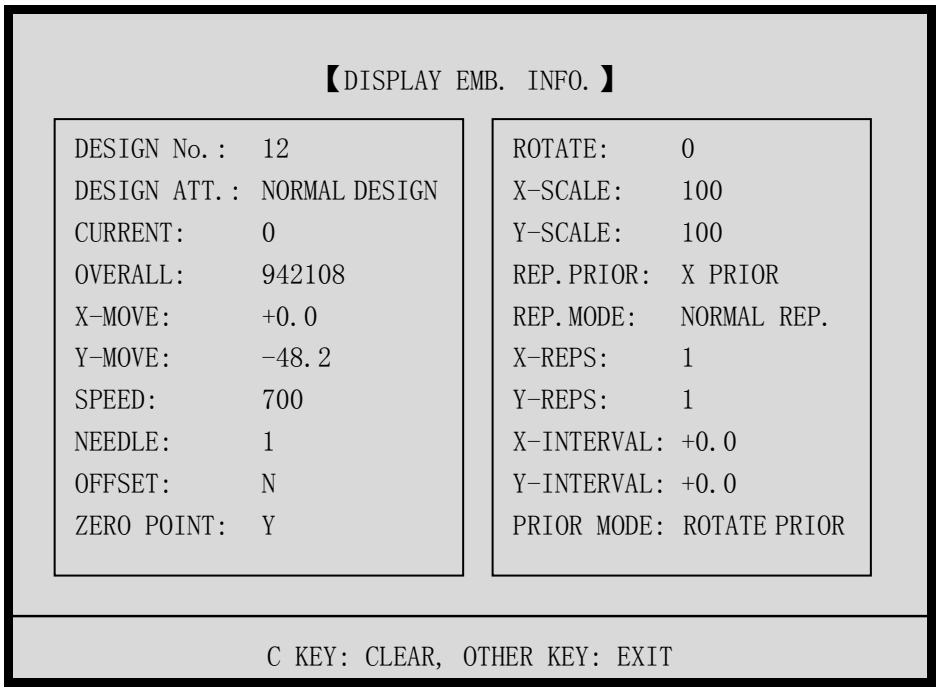
(3) Press "ESC" or "↵" key to quit the disk management.

Chapter 11 Displaying Parameters and Displaying Language Selection

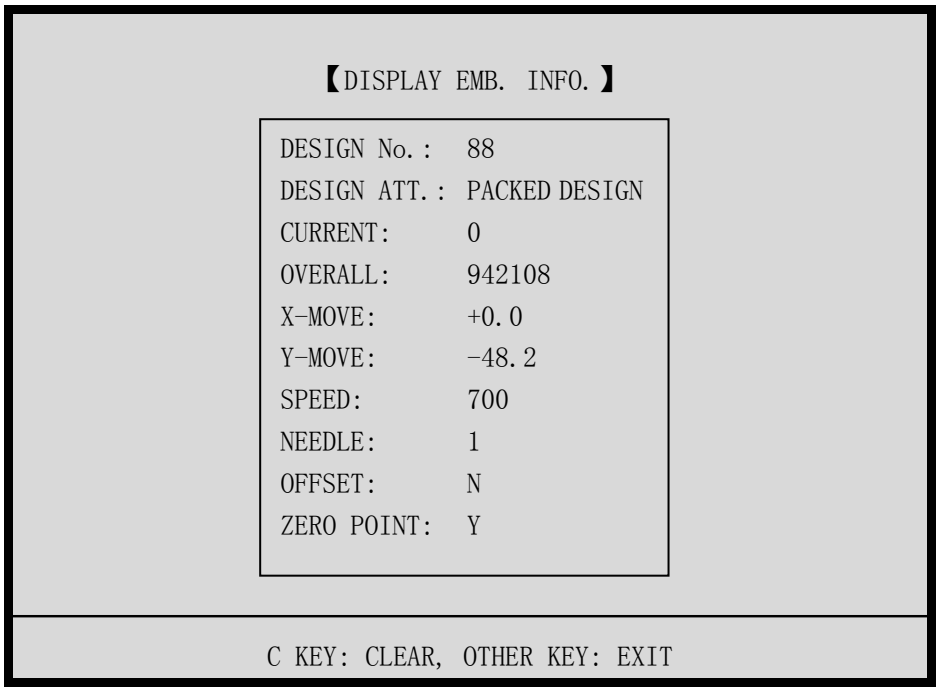
11-1 Viewing the Common Parameters

Operation:

(1) Press "[ ]" key, if the pre-embroidery design is normal design, the computer will show the following figure:



(2) If the pre-embroidery design is packed design, the computer will show the following figure:



11-2 Clearing Accumulated Stitch Count and X/Y Displacement

Operation:

(1) Press "" key, the computer will show the common parameters on LCD.

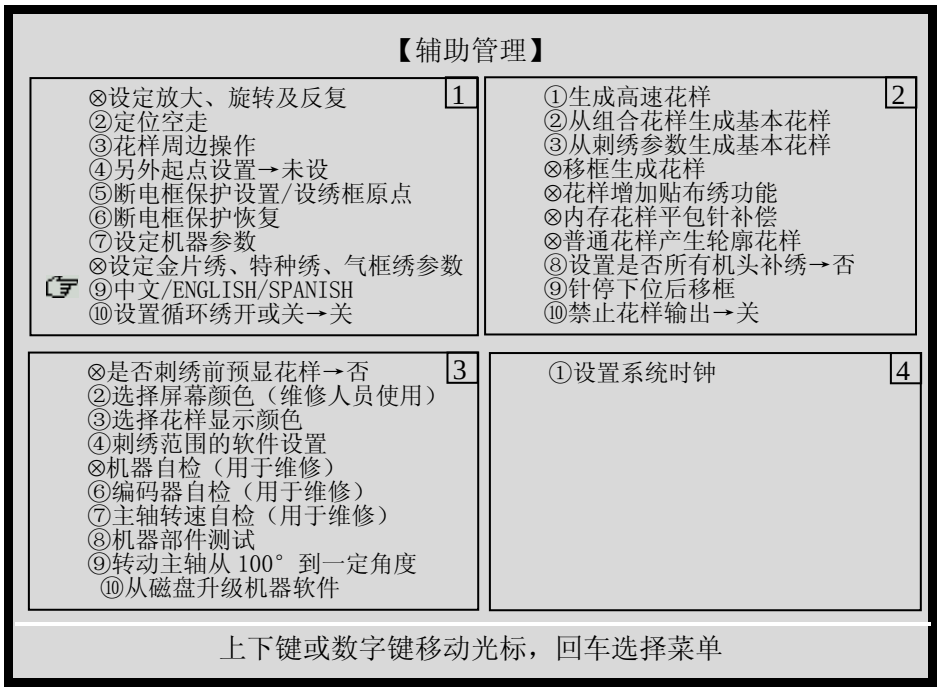
(2) Press "" key to clear "Overall Stitch Count" and "X/Y Move".

11-3 Switching of Display Language

The BECS-316/366 use the Chinese, English and Spanish interfaces and so on.

Operation:

(1) Press "" key, the menu appears as following(in Chinese display):



(2) Press "⇧"、"⇩" or digital key "9" to move the cursor to "中文/English/Spanish", and then press "↵" key. The LCD displays the next language.

If the displaying language is the last, the LCD will display the first. That is say the machine has the circular function on displaying language.

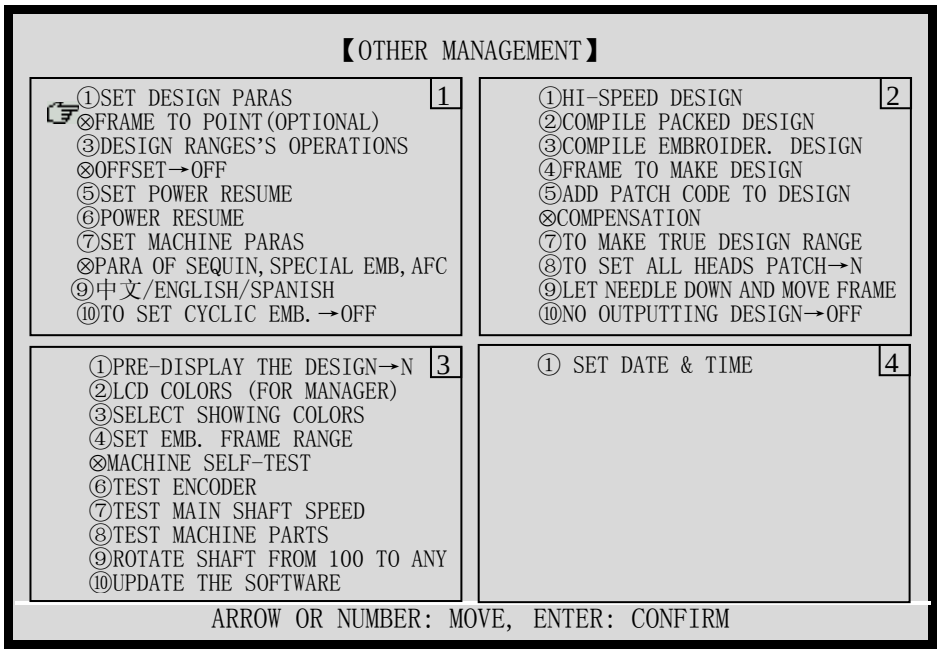
Chapter 12 Other management and Setting the Parameters

12-1 Setting of Magnification, Rotation and Repetition

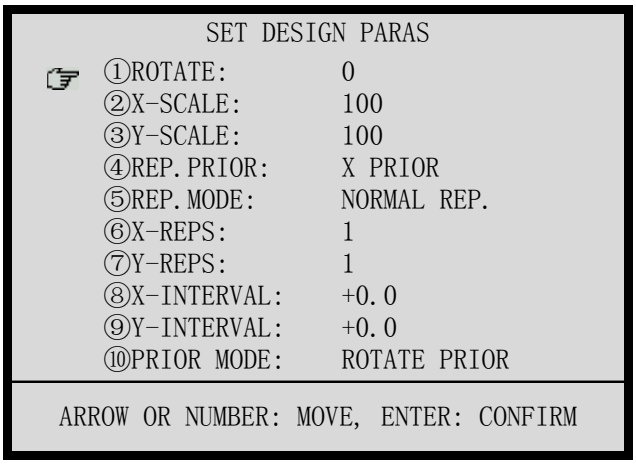
This operation is able to set the magnification factor (50% ~ 200%), angle of rotation (0° ~ 89°) of a design, as well as repetition if necessary in embroidery.

Operation: (in embroidery preparation status)

(1) Press "[ruler]" key, the menu appears as following:



(2) The cursor will be at "SET DESIGN PARAS", and press "[↵]" key to enter the next menu as following:



(3) Press "⇧", "⇩" and "↵" key to select the following parameters for revising them:

① Angle of rotation (0° ~ 89°)

Use digital key, "0" and "↵" keys to input data. This angle is an angle at which a design rotating counterclockwise according to the selected design direction.

② X magnification (50% ~ 200%)

Use digital key, "0" and "↵" keys to input data. This magnification is a transverse magnification of a design.

③ Y magnification

Use digital key, "0" and "↵" keys to input data. This magnification is a longitudinal magnification of a design.

④ Repetition sequence (X priority or Y priority)

Use "⇧", "⇩" and "↵" keys to perform the inputting. X priority presents the repetitive embroidery line by line in transverse direction during repetition. Y priority presents the repetitive embroidery row by row in longitudinal direction.

⑤ Repetition mode

Use "⇧", "⇩" and "↵" keys to perform the inputting. Usual repetition refers to the embroidering operation that after a complete design having been embroidered, the same design will be embroidered in the next position, i.e. the repetitive embroidery is performed by a complete design after another. Partial repetition refers to the embroidering operation that after a design having been embroidered with stitches of one color, the embroidery will be continued in the corresponding position of the next design with the same color stitches until this color repetition is completed, and then the embroidering operation will repeat with another color stitches until the repetitive embroidery is made with all color-stitches, i.e. the completion of the repetition of a complete design is based on the repetition of each part.

For partial repetition, you must compile the pre-embroidering design into a normal design, and embroider the normal design. (See Chapter 17)

⑥ Frequency of X repetition (1 ~ 99)

Use digital key, "0" and "↵" keys to input data. The frequency of X repetition presents the number of transversal repetition, i.e. the frequency of repetitive embroidery in a line.

⑦ Frequency of Y repetition (1 ~ 99)

Use digital key, "0" and "↵" keys to input data. The frequency of Y repetition presents

the number of longitudinal repetition, i.e. the frequency of repetitive embroidery in a row.

⑧ X repetition distance (unit: mm)

Use digital key, "", "+/-" and "" keys to input data. X repetition distance presents the distance between the starting points of two adjacent designs in transverse direction during repetition (accuracy: 0.1mm).

⑨ Y repetition distance (unit: mm)

Use digital key, "", "+/-" and "" keys to input data. Y repetition distance presents the distance between the starting points of two adjacent designs in longitudinal direction during repetition (accuracy: 0.1mm).

⑩ Priority modes (magnification priority or rotation priority)

Use "", "" and "" keys to perform the inputting. When selecting X magnification dissimilar to Y magnification and with rotating angle, the magnification priority and rotation priority can give different embroidery results.

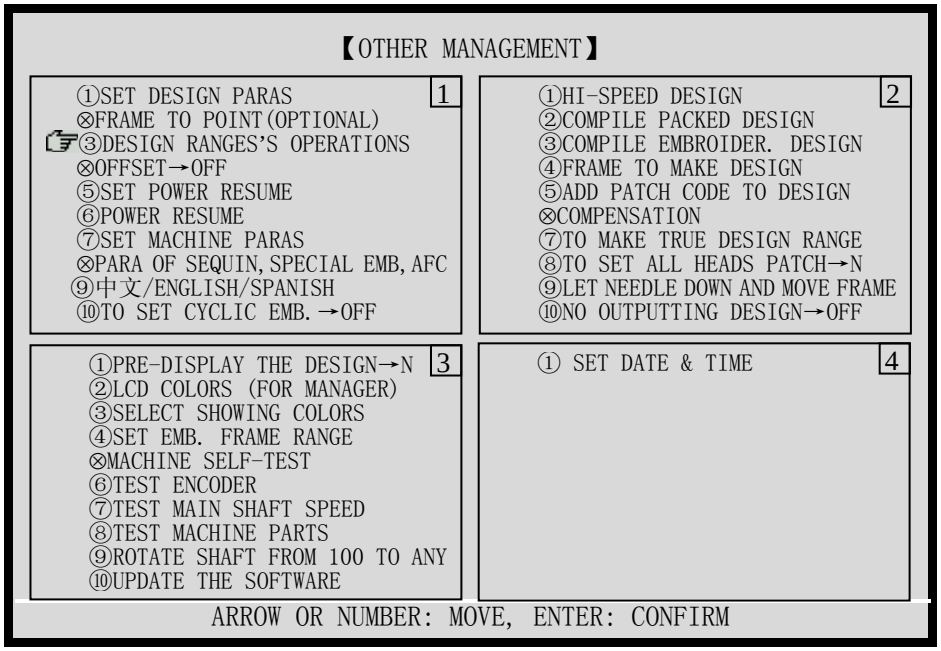
(4) Press "" or "ESC" key to end setting the parameters.

(5) Press "" or "ESC" key to go to the main picture.

12-2 Operation of Design Periphery

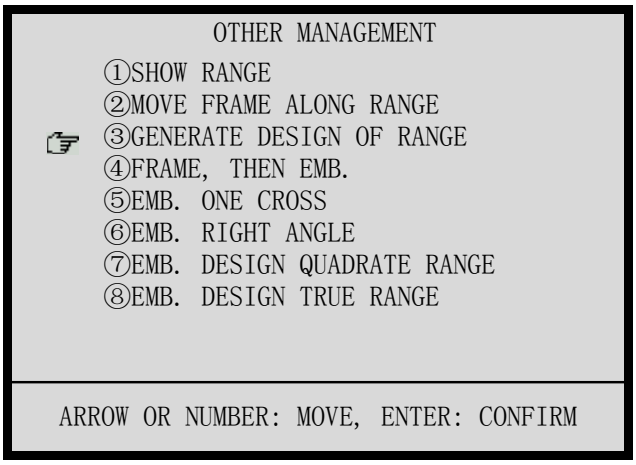
Operation:

(1) Press "" key, the menu appears as following:



(2) Press "", "" key or digital "3" to move the cursor to "DESIGN RANGE'S

OPERATIONS", and press "↵" key to enter the next menu as following:



(3) According to the prompt, press "⇧", "⇩" and "↵" keys to complete the following operation:

① Showing periphery

After selecting design but before starting embroidery, check the peripheral range of the design.

② Moving frame along the periphery

After selecting the design but before starting embroidery, the frame will run a cycle along the periphery for checking whether it exceeds the limits.

③ Generating a new periphery design

This operation can be carried out after selecting the design but before starting embroidery, which can produce a peripheral design of the current design. The peripheral design can be embroidered separately.

In case user's embroidering periphery can be achieved by embroidering the peripheral design, and the peripheral design has a central "+" line, if the length of the central "+" line is insufficient, the No. 99 design can be used for supplementary embroidery.

④ Move frame and embroider back along the path

Operation: move the frame along the assigned paths from the current position, when meet a inflexion, press "↵" key to confirm the line path; then repeat the above operation to finish the whole paths, you can also quit to the main picture by pressing "ESC" key; finally, you can pull the bar directly to start embroidering, the machine will embroider along the trace in converse direction to current position, and return to the "preparation status" automatically.

⑤ Embroider one cross at current position

Operation: input the length of the cross (unit: mm), then the system will return to the main picture automatically. You can pull the bar directly to start embroidering and the machine will embroider a “+” at current position, and return to the “preparation status” automatically.

⑥ Embroider right angle at current position

Operation: first, input the length of X-direction (unit: mm. If it is positive, then embroider along X-direction, if it is negative, embroider along the X negative direction); second, input the length of Y-direction (unit: mm. If it is positive, then embroider along Y-direction, if it is negative, embroider along Y negative direction), then the system will back to the main picture automatically; finally, you can pull the bar directly to start embroidering and the machine will embroider a right angle at current position, and, return to the “preparation status” automatically.

⑦ Embroider design’s quadrate range

Operation: the system will create a quadrate design and return to the main picture automatically; you can pull the bar directly to start embroidering and the machine will embroider the quadrate range at current position, and return to the “preparation status” automatically.

⑧ Embroider design’s true range

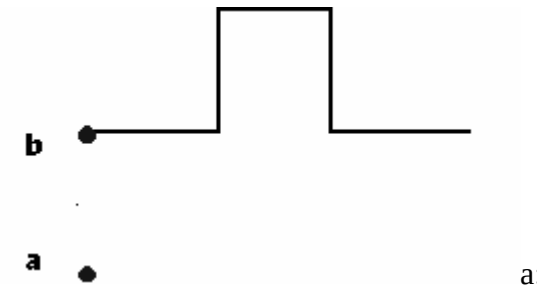
Operation: the system will create a figure design similar to the current design and return to the main picture automatically; you can pull the bar directly to start embroidering and the machine will embroider the figure at current position, and return to the “preparation status” automatically.

(4) Press " " or " " key to end the operation of design periphery.

(5) Press " " or " " key to go to the main picture.

12-3 Setting the Offset Point

What is called offset point can be an arbitrary point beyond the starting point of the design as shown in the following figure:



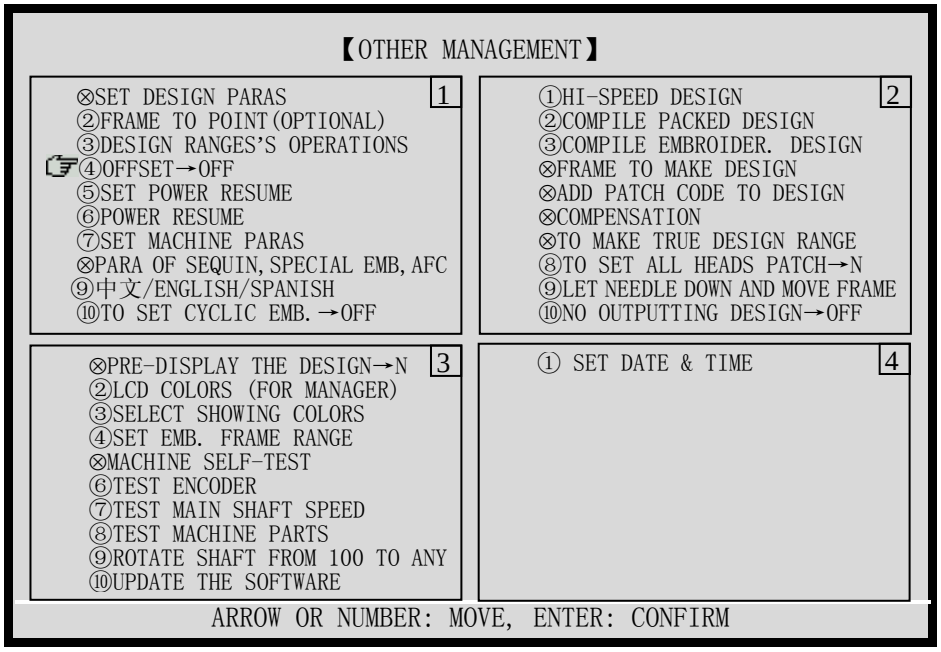
a: offset point, b: starting point

When you select a design and make the machine enter into the embroidery confirmation status, the system will clear the offset point. Operation for setting offset point and embroidering is as following:

(1) Select a design for embroidering and make the machine enter into embroidery confirmation status. (See Section 3-4)

(2) Press "⇦", "⇨", "⇧" and "⇩" to move the frame to the starting point of design.

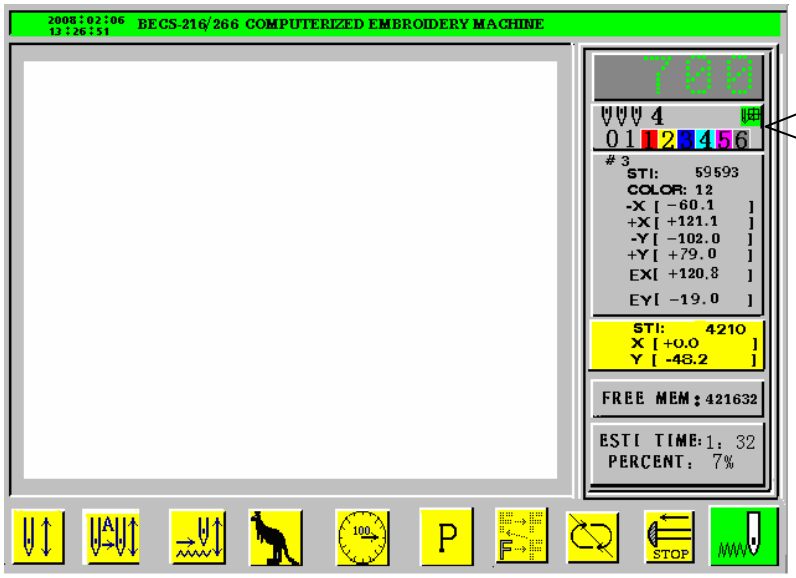
(3) Press "⌂" key, the menu appears as following:



(4) Press "⇧", "⇩" key or digital "4" to move the cursor to "OFFSET", and then press "↵" key.

(5) Press "⇦", "⇨", "⇧" and "⇩" to move the frame to the offset point. In case of needs not to set offset point or wants to deleting offset point that has been set previously, go to the following step without moving the frame to the offset point.

(6) Press "↵" key to continue, and the computer go to the main picture.



(7) The frame first moves from the offset point to the start point, and then begins embroidering. Moreover, setting the offset point is also the base of frame moving out in patching embroidery.

12-4 Setting Frame Protection when Power Off (Setting the Machine's Zero Point)

The purposes of the operation are:

Purpose 1: The function of "setting the protection when power off/frame zero point" can restore the frame position when power off unexpectedly together with the function of power resume.

Purpose 2: The function of "setting the protection when power off/frame zero point" is to set the base point when a design's origin point needs to be saved and restored. This base point is recommended to be any point on the bedplate, once being set, you'd better not change it and should marks flag.

Note:

Note 1: The realization of purpose 1 is based on the available limit switch and setting frame zero point automatically.

Note 2: The operation of "setting frame zero point automatically" or "Setting frame zero point manually" all can set the base of saving and restoring the design's origin point.

Note 3: The operation of this function can only be done with one of two operations of “setting frame zero point automatically” and “Setting frame zero point manually”.

Note 4: Except for particular instance, during embroidering by normal operation, whether handy frame origin memory or auto frame origin memory, one time correct setup is ok.

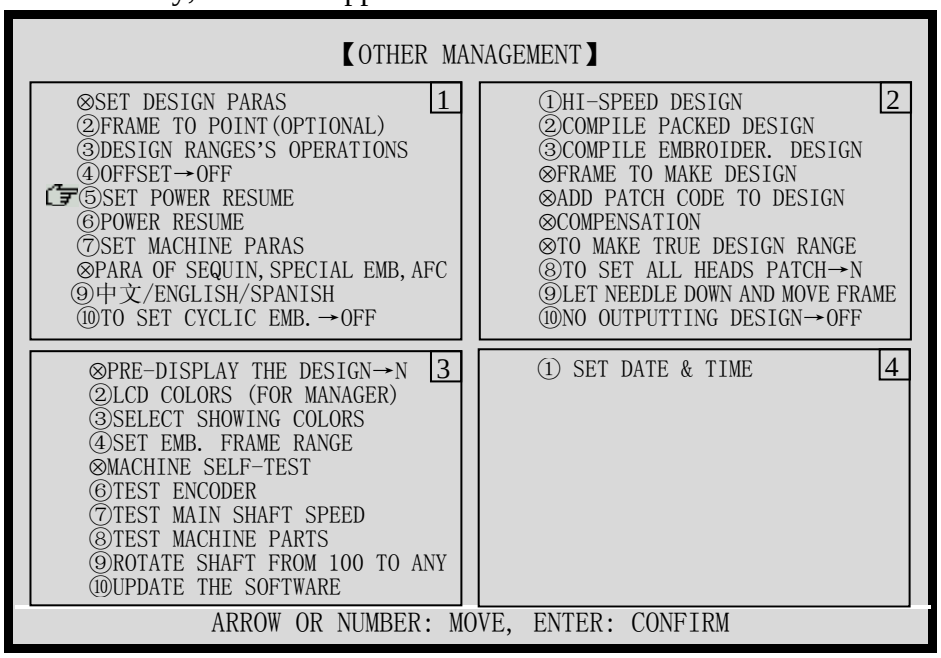
1. Setting frame zero point manually

Note: when meeting emergency stop because of malfunctions or something unusual such as power off unexpectedly, etc. the machine will cancel the “setting frame origin” function to avoid the mistakes. So, at that time, you should do operation of “Setting frame zero point manually” again at the last frame zero point.

If the frame has been moved after power off, or if power on again after maintenance, you should do again the operation of “Setting frame zero point manually”.

Operation:

(1) Press "[⌐]" key, the menu appears as follows:



(2) Press "[⇧]", "[⇩]" keys or numeric key "5" to move the cursor to "SET POWER RESUME/ZERO POINT", and press "[↵]" key.

(3) If the function of “setting emb. frame range” has been set, then there will be a warning: “AUTO CLEAR ‘EMB. FRAME RANGE’”, and press "[↵]" key to continue.

(4) The prompt is “MANUALLY ‘SET ZERO’ POINT?”, then select “YES” with "[⇧]", "[⇩]" keys, and press "[↵]" key.

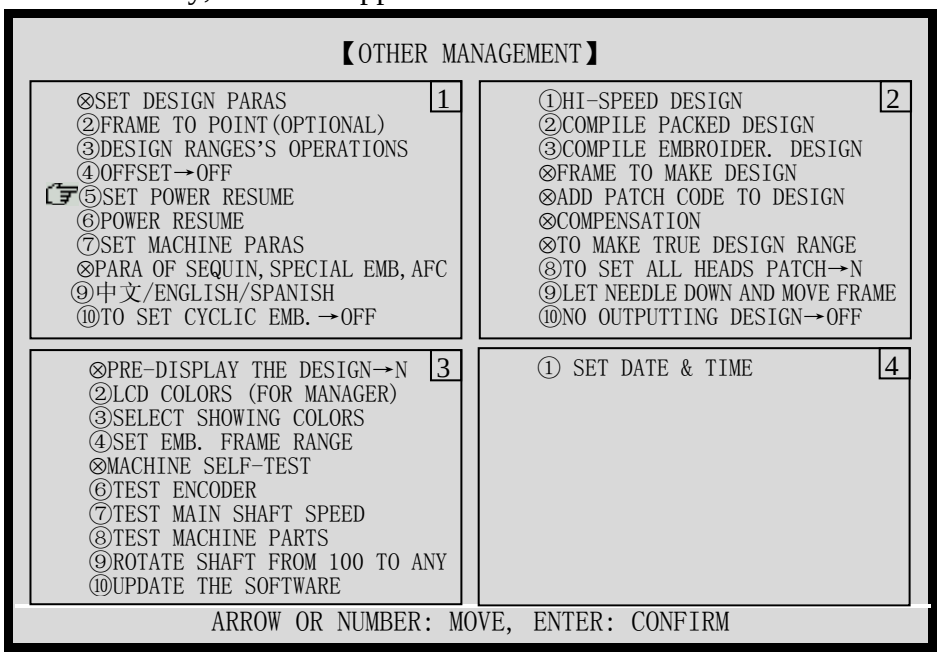
(5) Do as prompting, mark the frame zero point when the frame has been moved to the selected zero point, then finish the setting by pressing "↵" key.

2. Setting frame zero point automatically

Note: please ensure that the limit switch is available before this operation, or the frame will be damaged.

Operation:

(1) Press "⌂" key, the menu appears as follows:



(2) Press "⇧", "⇩" keys or numeric key "5" to move the cursor to " SET POWER RESUME/ZERO POINT ", and press "↵" key.

(3) If the function of "setting emb. frame range" has been set, then there will be a warning: "AUTO CLEAR 'EMB. FRAME RANGE'", and press "↵" key to continue.

(4) The prompts is "MANUALLY 'SET ZERO' POINT?", then select "NO" with "⇧", "⇩" keys, and press "↵" key.

(5) The machine will give a prompt "TO SET POWER RESUME", and press "↵" key, then the frame begin moving, when meets the limit switch, the frame will return to the zero point. The setting then finished.

12-5 Frame Restoring after Power Off

In case of frame having been moved after power off, this operation can be used to restore the frame position before power off when the power is on again. The proper performance of

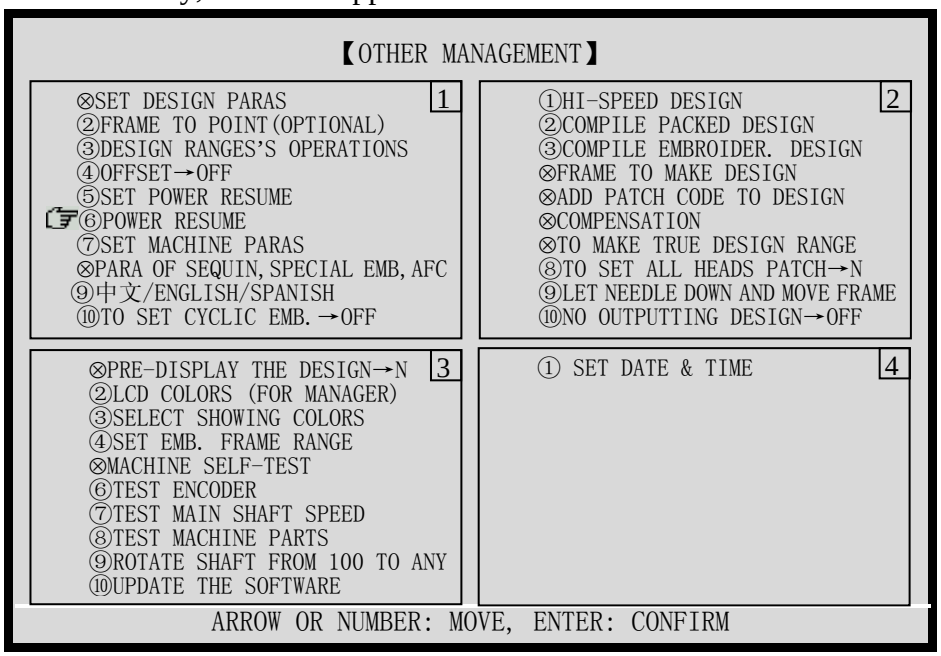
this operation is based on the “SET POWER RESUME/ZERO POINT”. In addition, if the power is off in the process of embroidering operation and the frame has not been shifted, you also can directly pull the operation bar to continue embroidering after power is on again.

It will be invalid if the operation of “setting frame zero point manually” is done.

Operation:

(1) Turn the main shaft to the stopping position at 100 degrees

(2) Press "[⌂]" key, the menu appears as follows:



(3) Press "[⇧]", "[⇩]" key or numeric key "6" to move the cursor to "POWER RESUME", and press "[↵]" key.

(4) Continue the operation according to the prompt, and the restoration of frame position can be achieved.

(5) The main picture will automatically appear after it.

12-6 Demanding whether Setup Frame Zero Point or not

Press "[⌂]" key to check whether machine setup frame ZERO POINT or not: the machine will be displayed as “ZERO POINT: ✓” if ZERO POINT setup, otherwise the machine will be displayed as “ZERO POINT: ×”.

Setting frame zero point has two ways: auto ways and manual ways.

1. After auto setting frame zero point, if it is correct, then the icon “⊗” before “POWER

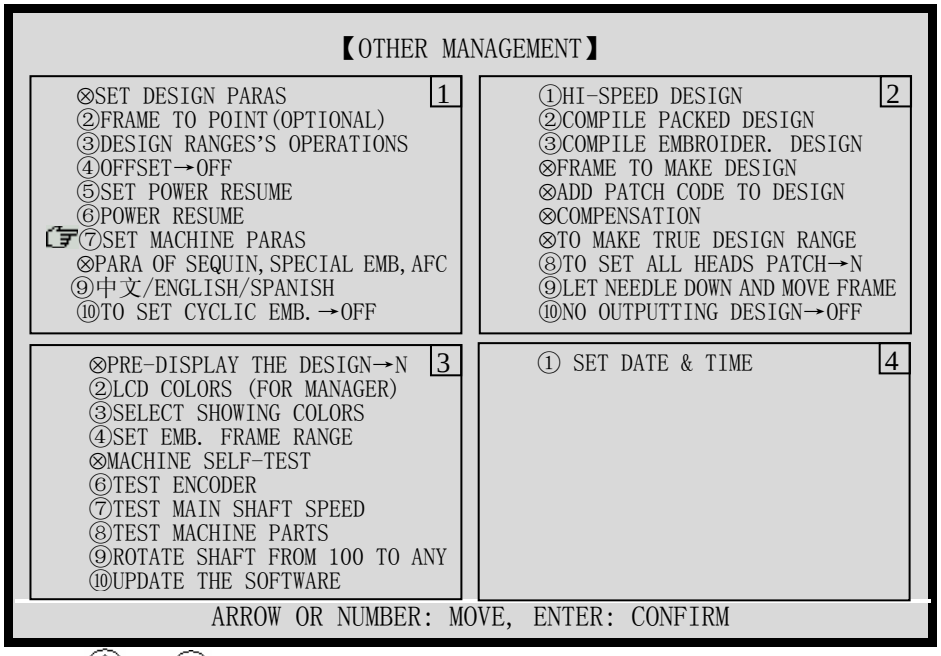
RESUME” in the “OTHER MANAGEMENT” will be changed into “⑥”.

2. If manually setting frame zero point, the icon “⊗” before “POWER RESUME” in the “OTHER MANAGEMENT” will be not changed, and it still be “⊗”.

12-7 Setting the Machine Parameters

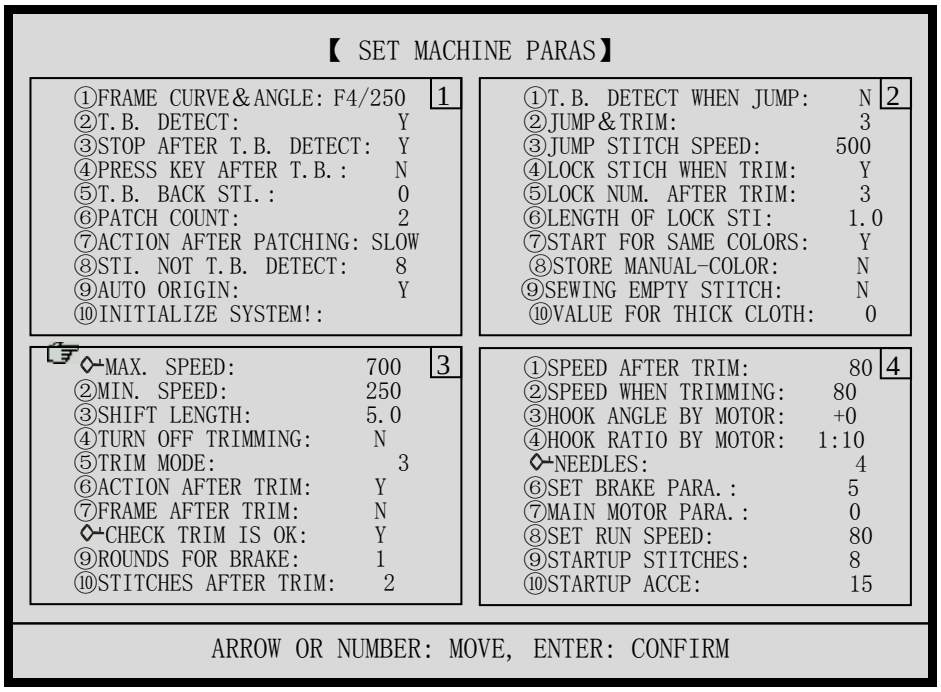
Operation:

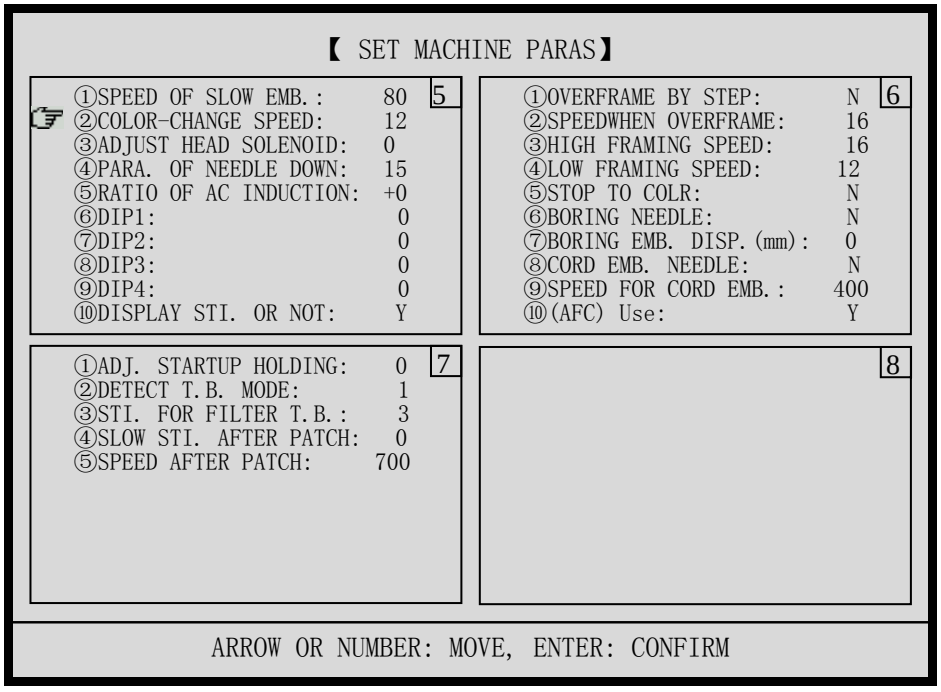
(1) Press "" key, the menu appears as following:



(2) Press "", "" or digital key "7" to move the cursor to "SET MACHINE PARAS", and then press "" key.

(3) The machine parameters are in 5 pages (you can press "" or "" key to turn to other pages), which are as following figures. The parameters can be revised using "", "", digital keys, "" and "" keys.





(4) Press "ESC" to end the operation.

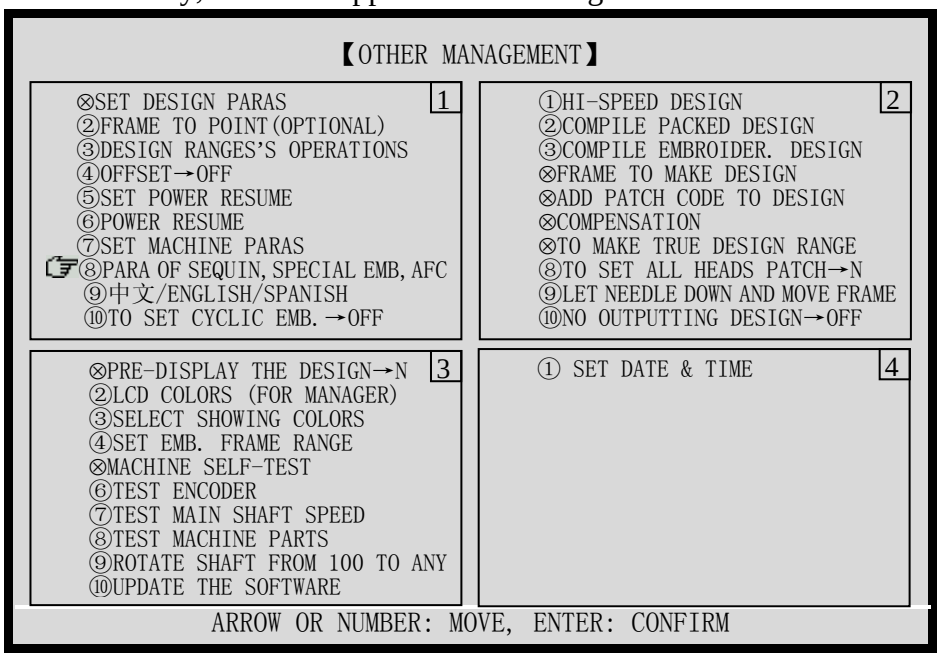
(5) Press "ESC" to go to the main picture.

Note: For details, see Chapter 31 about "Table of the Machine Parameters".

12-8 Setting Parameters of Sequin, Special Emb, etc

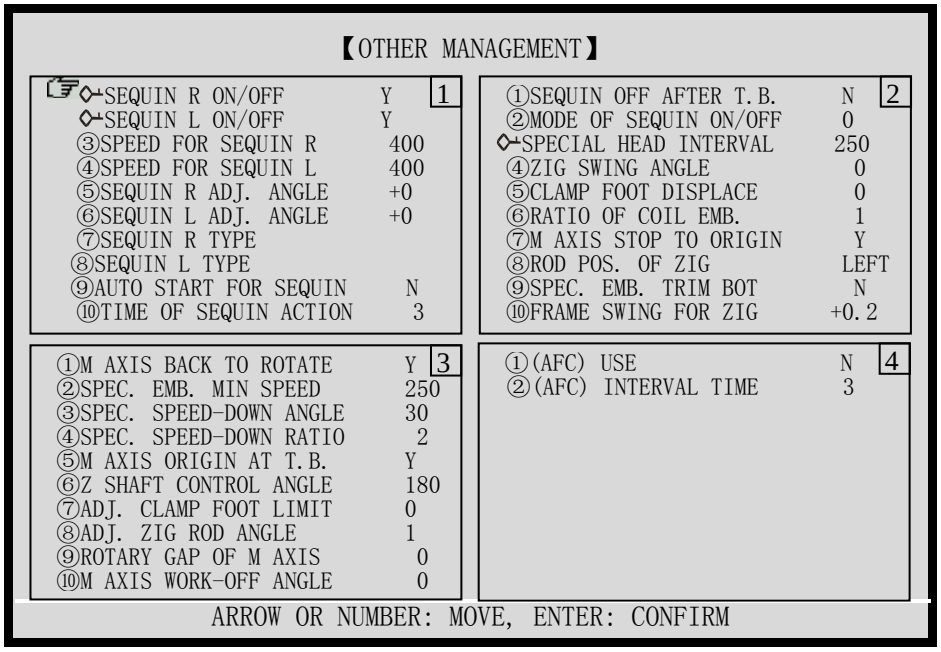
Operation:

(1) Press " " key, the menu appears as following:



(2) Press " "、" " or digital key "8" to move the cursor to "PARA OF SEQUIN,SPECIAL EMB,AFC", and then press " " key.

(3) According to machine prompts, press " ", " ", digital keys, " ", " " , " " and " " keys to set all the parameters. Parameters in the table below are all adjustable, but they vary according to different types.


【OTHER MANAGEMENT】
1
SEQUIN R ON/OFF Y
SEQUIN L ON/OFF Y
③SPEED FOR SEQUIN R 400
④SPEED FOR SEQUIN L 400
⑤SEQUIN R ADJ. ANGLE +0
⑥SEQUIN L ADJ. ANGLE +0
⑦SEQUIN R TYPE
⑧SEQUIN L TYPE
⑨AUTO START FOR SEQUIN N
⑩TIME OF SEQUIN ACTION 3
2
①SEQUIN OFF AFTER T.B. N
②MODE OF SEQUIN ON/OFF 0
SPECIAL HEAD INTERVAL 250
④ZIG SWING ANGLE 0
⑤CLAMP FOOT DISPLACE 0
⑥RATIO OF COIL EMB. 1
⑦M AXIS STOP TO ORIGIN Y
⑧ROD POS. OF ZIG LEFT
⑨SPEC. EMB. TRIM BOT N
⑩FRAME SWING FOR ZIG +0.2
3
①M AXIS BACK TO ROTATE Y
②SPEC. EMB. MIN SPEED 250
③SPEC. SPEED-DOWN ANGLE 30
④SPEC. SPEED-DOWN RATIO 2
⑤M AXIS ORIGIN AT T.B. Y
⑥Z SHAFT CONTROL ANGLE 180
⑦ADJ. CLAMP FOOT LIMIT 0
⑧ADJ. ZIG ROD ANGLE 1
⑨ROTARY GAP OF M AXIS 0
⑩M AXIS WORK-OFF ANGLE 0
4
①(AFC) USE N
②(AFC) INTERVAL TIME 3
ARROW OR NUMBER: MOVE, ENTER: CONFIRM

(4) Press "[⌨]"or "[ESC]" to exit from “PARA OF SEQUIN, SPECIAL EMB, AFC.”.

(5) Press "[⌨]"or "[ESC]" to go to the main picture.

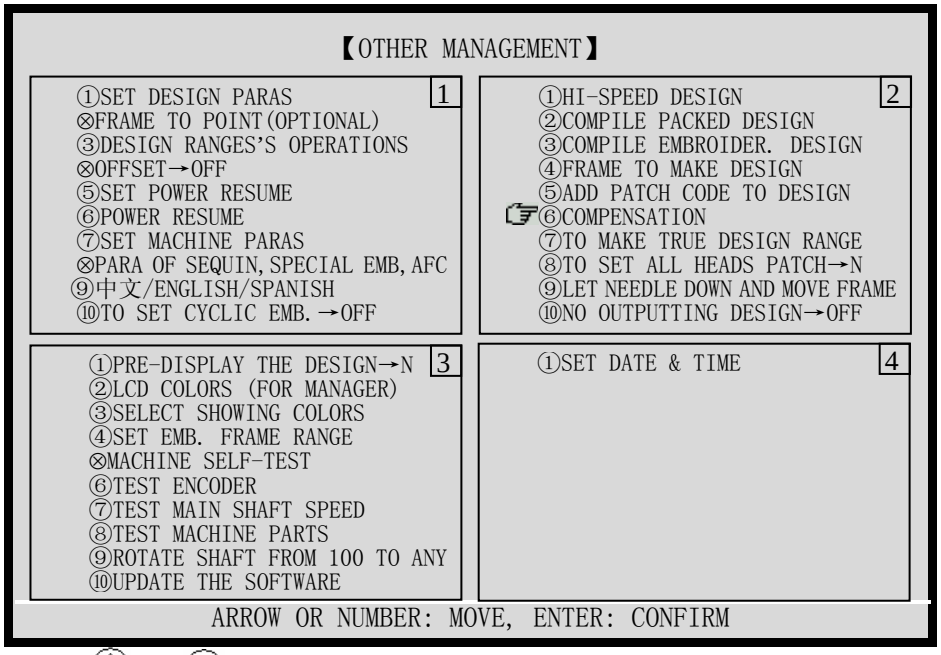
Note: For information about setting parameters, see Chapter 31 for more information.

12-9 Compensating of Satin Stitches

This operation is able to search automatically the satin stitches of the assigned design and carry out compensation as required, thus obtaining a widening or narrowing result of satin stitches. After compensating of satin stitches, a new design will be created but the source design keeps unchanged.

Operation: (in embroidery preparation status)

(1) Press "[⌨]" key, the menu appears as follows:



(2) Press "[↑]"、"[↓]" or digital key "8" to move the cursor to "COMPENSATION", and then press "[↵]" key.

(3) Select the source design according to the prompt.

(4) Input the X and Y compensation value, which ranges from -0.2 mm to +0.3 mm.

(5) Input the number of destination design and press the key "[↵]".

(6) Wait until the new design is made.

(7) Press “[⌨]” or "[ESC]" to go to the main picture.

(8) During the input design process, the compensated design can be input to the

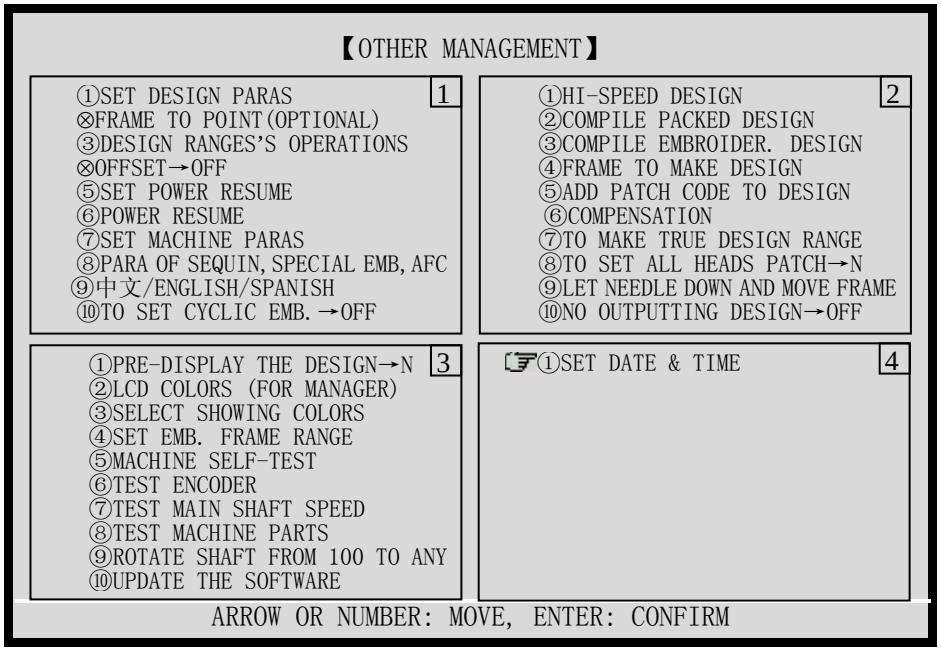
memory directly by the help of prompts.

12-10 Set Date & Time

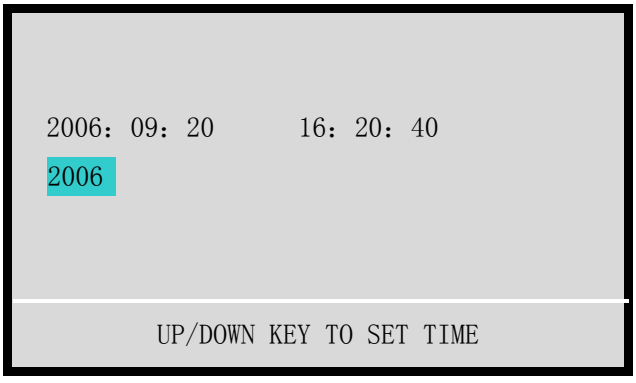
This operation can set date and time for screen display.

Operation:

(1) Press the key "", then press "" to turn to page 3 to enter "OTHER MANAGEMENT" menu:



(2) Use "" and "" to select "", then press "" key to display the follow image:



(3) Press "" and "" to select a year and then press the key "".

(4) Then system prompts to set the month. Repeat step (3) until finish all the settings, then press the key " ". After the system turns back to "OTHER MANAGEMENT" automatically, the system clock will show the updated time.

(5) Press " " to exit from "OTHER MANAGEMENT".

Chapter 13 Management of Design in Memory

Note: For BECS-316/366, *the design management must be done in the embroidery preparation status.*

13-1 Select a Design for Embroidery

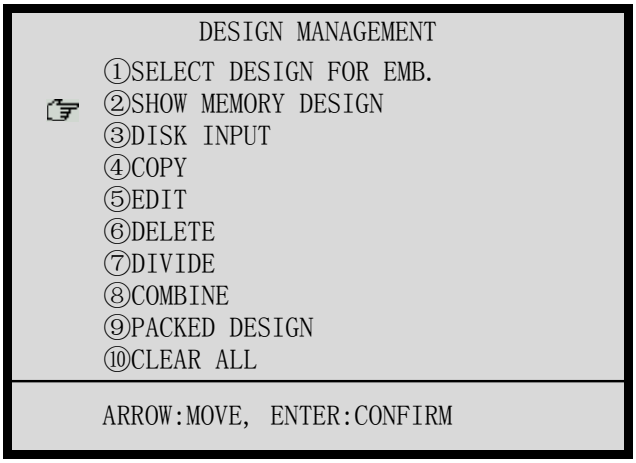
This function selects a design for the preparation-embroidering design. See 3-4 for details.

13-2 List the Design in Memory

This operation lets the operator able to view the design stored in memory, the design count, free memory, and also display the design information, such as color-change times, stitch count, X range, Y range.

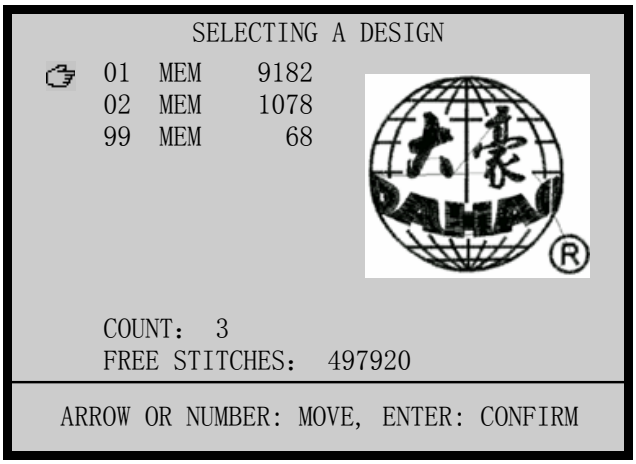
Operation:

(1) Press "" key, the computer shows the design management menu as following:



(2) Press "", "" or digital key"2" to move the cursor to "SHOW MEMORY DESIGN", and then press "" key.

(3) Directory of design in memory is listed on screen and the design at the cursor is displayed automatically. In case of the directory exceeding one page, use "" or "" key for viewing.



(4) Press "⇧"、"⇩" key to move cursor, and press "↵" key to view the design in detail.

(5) Now, you can view the design according to the prompt.

(6) Press "ESC" to end viewing.

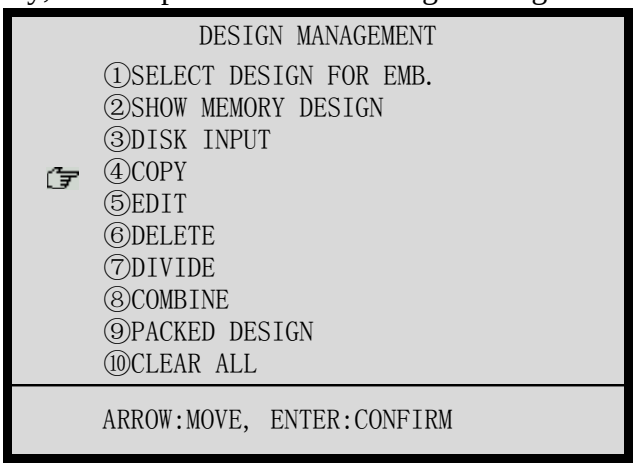
13-3 Input a Design into Memory from Floppy Disk

This operation is similar to “DISK INPUT”. See 3-2 for details.

13-4 Copy the Design

Operation:

(1) Press "☆" key, the computer shows the design management menu as following:



(2) Press "⇧"、"⇩" or digital key"4" to move the cursor to "COPY ", and then press "↵" key.

(3) Press "⇧"、"⇩", "PU" and "PD"key to select the source design, and then press "↵" key to go to next step or press "ESC" key to quit.

(4) According to the prompt, input the number of destination design, and press "↵" key to begin the copying.

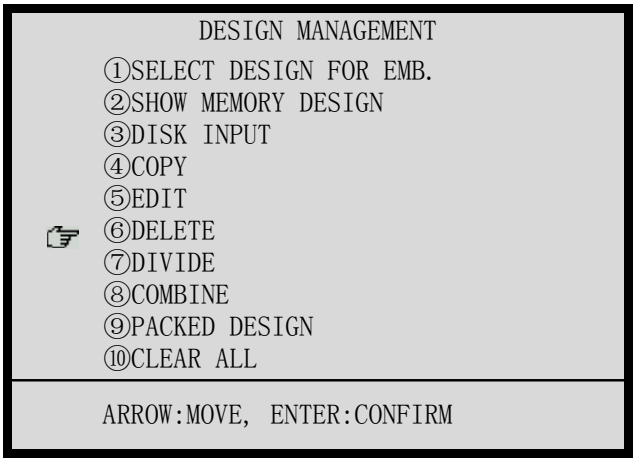
(5) Press "F" or "ESC" to end the design management.

13-5 Delete the Design

It deletes a design in the memory.

Operation:

(1) Press "F" key, the computer shows the design management menu as following:



(2) Press "↑"、"↓" or digital key"6" to move the cursor to "DELETE", and then press "↵" key.

(3) Press "↑"、"↓", "PU" and "PD"key to select the design, and then press "↵" key to go to next step or press "ESC" key to quit.

(4) After the computer deletes the design, it will go to the design management menu.

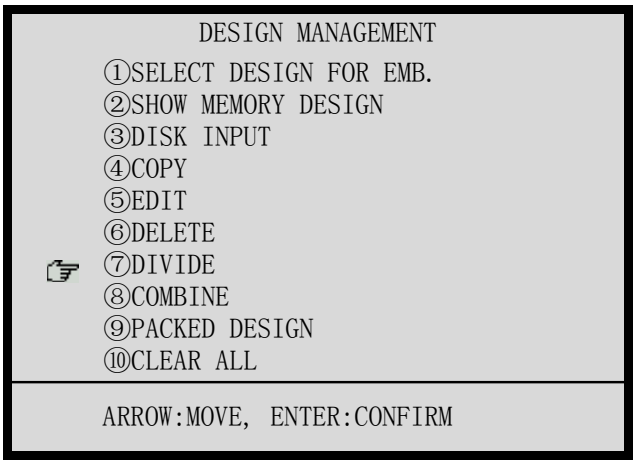
(5) Press "F" or "ESC" to end the design management.

13-6 Divide the Design

This operation is intended for dividing the design in memory into two new designs and keeping the source design in memory unchanged.

Operation:

(1) Press "F" key, the computer shows the design management menu as following:



(2) Press "⇧"、"⇩" or digital key"7" to move the cursor to "DIVIDE", and then press "↵" key.

(3) Press "⇧"、"⇩", "PU" and "PD"key to select the source design, and then press "↵" key to go to next step or press "ESC" key to quit.

(4) After the prompt, input a stitch count (the first divided design has the stitches of the count number).

(5) Input the number of first divided design.

(6) Input the number of second divided design.

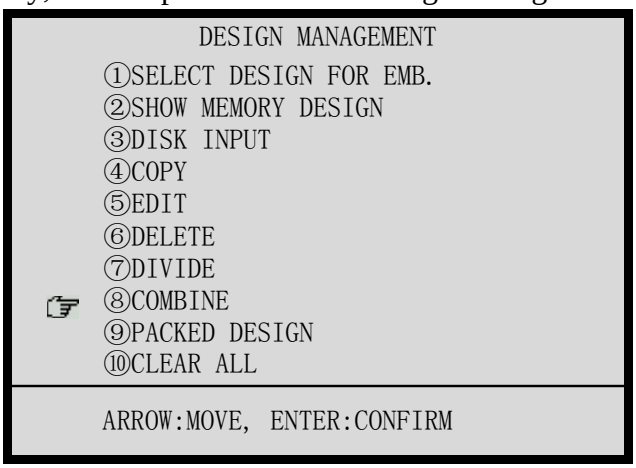
(7) The computer does the dividing, and then will go to the design management menu.

(8) Press "⭐" or "ESC" to end the design management.

13-7 Splice two Designs

Operation:

(1) Press "⭐" key, the computer shows the design management menu as following:



(2) Press "⇧"、"⇩" or digital key"8" to move the cursor to "COMBINE", and then press "↵" key.

(3) Press "⇧"、"⇩", "PU" and "PD"key to select the first source design, and then press "↵" key.

(4) Press "⇧"、"⇩", "PU" and "PD"key to select the second source design, and then press "↵" key.

(5) According to the prompt, input the distance between the end stitch of first design and the beginning stitch of second design.

(6) Input the number of destination design.

(7) The computer does the splicing, and then will go to the design management menu.

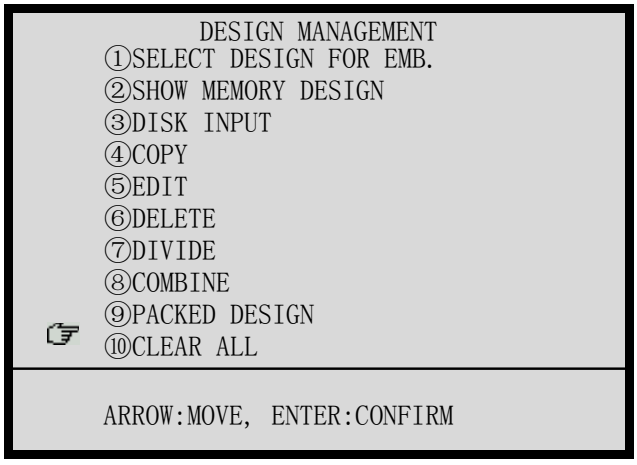
(8) Press "F1" or "ESC" to end the design management.

13-8 Editing the Packed Design

The packed design means a design group packed from several (less than 100) normal designs in memory after setting parameters, which is intended for continuous embroidery automatically.

Operation:

(1) Press "F1" key, the computer shows the design management menu as following:

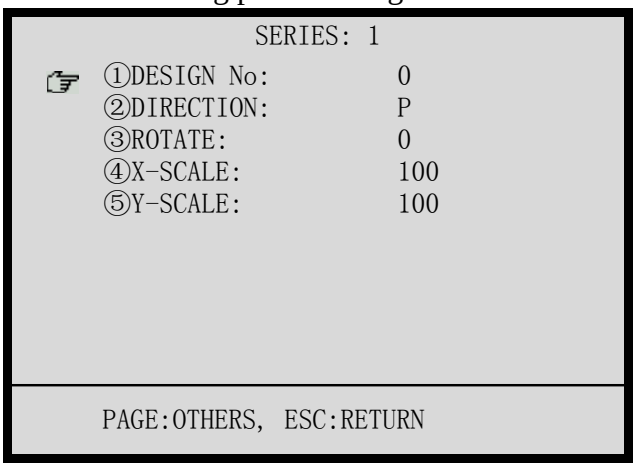


(2) Press "⇧"、"⇩" or digital key"9" to move the cursor to "PACKED DESIGN", and then press "↵" key.

(3) The lower side of screen prompts you to enter the number of packed design. Input “0” for abandoning editing operation, or input a non-existent number of design for creating a

packed design, or input an existent packed design for editing it. Whereas input a number of existent normal design in memory, then you must repeat the input.

(4) Enter into the menu of editing packed design:



You must input the following parameters for each packing normal design: number of design in memory, design direction, angle of rotation, X magnification, Y magnification, X distance relative to the first design and Y distance relative to the first design.

Pressing "" and "" key, you can set several designs. After completion, press "" key to store the packed design and return to the design management. Or press "" key and decide whether you save the packed design, then return to the design management.

(5) Press "" or "" to end the design management.

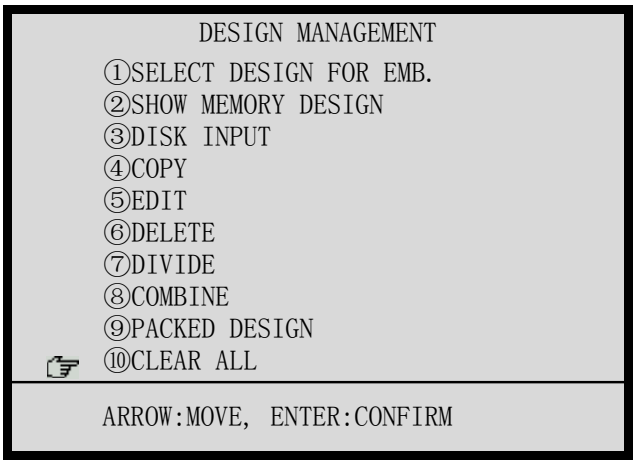
(6) As for selecting a design，system can show the image of a normal design with an extension “MEM” but not that of a combined design with an extension “PAR”. If you want to view the image of a combined design, you should go to the menu “OTHER MANAGEMENT” and operate “FROM PACKED DESIGN TO NORMAL DESIGN” to create a normal design with an extension “MEM” so as to view.

13-9 Clear All Designs in Memory

This operation is intended for clearing all designs in memory, be careful to use it!

Operation:

(1) Press "" key, the computer shows the design management menu as following:



(2) Press "⇧"、"⇩" or digital key"0" to move the cursor to "CLEAR ALL", and then press "↵" key.

(3) The lower side of screen prompts you to check whether or not you clear all designs. Press "⇧"、"⇩" keys to change [YES] or [NO]. Select [YES] and press "↵" key to clear all designs. If select [NO] and press "↵" key or press "ESC" key to give up the operation.

(4) After clearing all the designs, system will display the memory size (total stitches remained). Press any key to return to the menu of “DESIGN MANAGEMENT”.

(5) Press "⌂" or "ESC" to end the design management.

Chapter 14 Edit of the Design in Memory

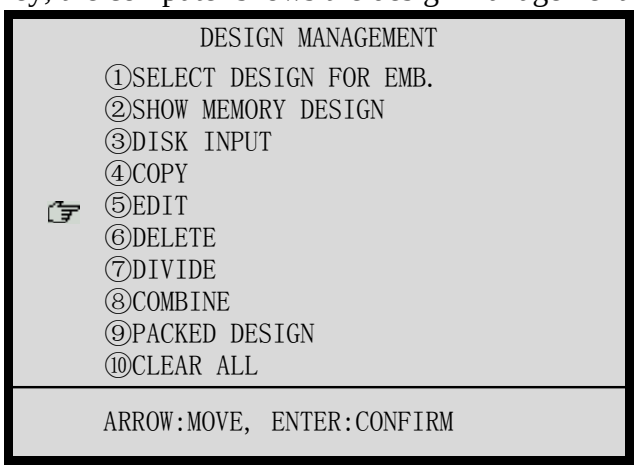
Adopting the most convenient, direct-viewing and full-screen editing mode, the function of editing design in memory has more advantages, such as: easy editing, flexible, faultless.

This function is able to directly carry out edit of the design with stitch count of less than 65 thousand. For the oversize design, indirect edit can be made. As for the oversize design, it is recommended to divide the design into several sub-designs (the sub-designs to be edited have stitch count of less than 65 thousand) which will then be edited respectively, and finally several sub-designs are spliced in order. Owing to the oversize designs appear seldom, therefore the contradiction between editing speed and editing oversize design will be solved easily.

14-1 Entering the Edit of Design in Memory

Operation:

(1) Press "" key, the computer shows the design management menu as following:



(2) Press "", "" or digital key"5" to move the cursor to "EDIT", and then press "" key.

(3) The lower side of screen prompts: "EDIT NEW DESIGN?", you can press "", "" keys to change [YES] or [NO]. If you select [YES] and press "" key, you should input the number of new design. If you select [NO] and press "" key, then you can select an existent normal design for editing.

(4) After editing the design (See the following sections), the design management appears.

(5) Press "" or "" to end the design management.

14-2 How to Edit a Stitch

After entering to the function of editing new design, on the top of the screen will display:

0 + 0 + 0

On the bottom of the screen will display the current stitch: "STITCH: 1".

Of which data on a line presents a stitch. The first row is the code of the stitch. Its code are as following. The second row is the value of X (unit: 0.1 mm) and the third row is the value of Y (unit: 0.1 mm).

0 : invalid stitch
3 : satin stitch
4 : jumping
5 : frame jumping
6 : absolute jumping
7 : color-change
8 : stop
9 : towel embroidery
10: chain embroidery

According to the above, the character of stitch and the values of X and Y can be chosen by pressing digital key directly (If X or Y is negative, press "+/−" key to change into positive number, then press digital key.), and then press "↵" key.

When the cursor move to the next line, it shows one stitch has been edited over.

Press "−" key continuously, then the screen will display:

0 + 0 + 0
0 + 0 +0
0 + 0 + 0
0 + 0 +0
0 + 0 + 0
0 + 0 +0
… … … …

Input the value you need to the corresponding position in each line, and press "↵" key. Then the stitch number displayed on the bottom of the screen is the stitch number has been edited. After editing press "ESC" key and select "⑤", then press "↵" key. The new design has been edited over.

1. Modifying a stitch

You can use "←", "→", "↑", "↓", "↵" and "PU", "PU" keys to move the cursor, and use digital key to input numeral. It is necessary to point out that the range of X and Y values of stitch length is –127 ~ +127. In case the input value is out of the range, the machine will not confirm this entry. For instance, when changing "+126" to "+63", first move the cursor underneath "+", then press "+/-", "6" and "3" keys.

2. Deleting a stitch

Use "↑", "↓", "PU", and "PU" keys to move the cursor underneath the stitch to be deleted, then press "C" key to delete the stitch. And the deleted stitch is stored for using it for inserting a stitch.

3. Inserting a stitch

Use "↑", "↓", "PU", and "PU" keys to move the cursor underneath a stitch, press "−" key to insert the last deleted stitch before this stitch.

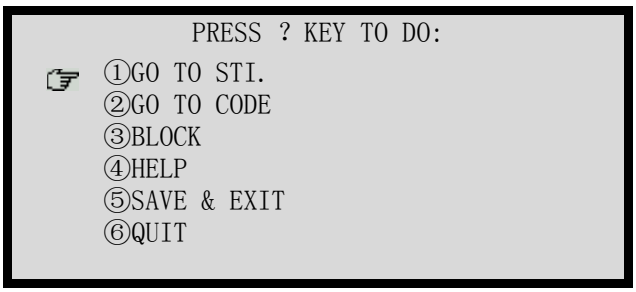
Note: Using function "2" and "3" by turns can speed up input of repeat stitch.

Attention must be paid that when a design requires adding one stitch, inserting a stitch must be used.

14-3 Rapidly Searching a Stitch

Operation:

(1) Press "ESC" or "?" key to enter into the following menu:



(2) Press "↑"、"↓" or digital key"1" to move the cursor to "GO TO STI.", and then

press "↵" key.

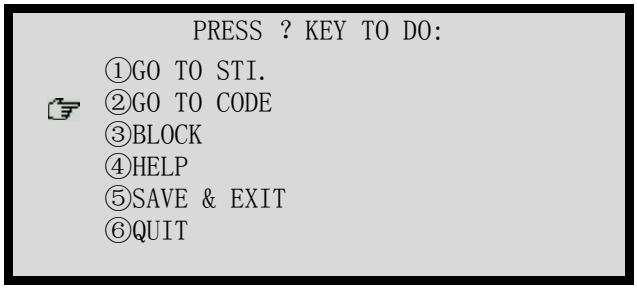
(3) Input the stitch number to which the cursor will go.

(4) The cursor will directly go to the stitch.

14-4 Rapidly Searching a Special Stitch

Operation:

(1) Press "ESC" or "?" key to enter into the following menu:



(2) Press "⇧"、"⇩" or digital key"2" to move the cursor to "GO TO CODE", and then press "↵" key.

(3) Input the code of stitch which the computer will search backwards from the current stitch.

(4) If finding the code, the cursor will directly go to the stitch with this code.

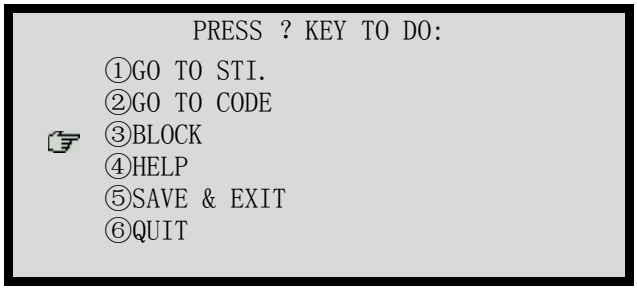
NOTE: This function only applies to afterward-searching from the current stitch.

14-5 Block Operation

The block means a part of continuous stitches of the design in memory. Its function is intended for performing rapid operation to these continuous stitches: copying, moving, deleting and merging several designs in memory.

Operation:

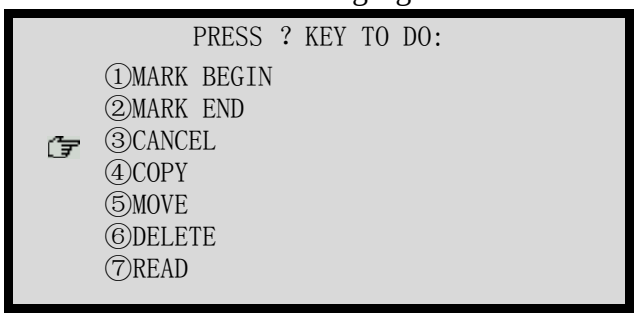
(1) Press "ESC" or "?" key to enter into the following menu:



(2) Press "⇧"、"⇩" or digital key"3" to move the cursor to "BLOCK", and then press

"↵" key.

(3) the block operation menu is as following figure:

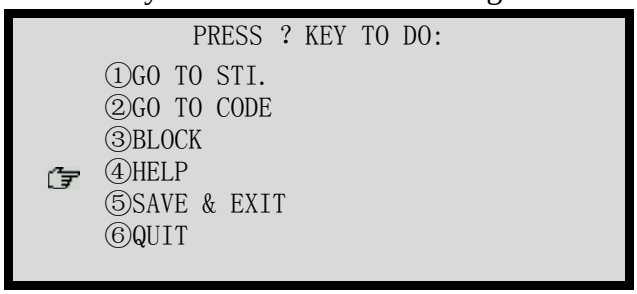


These functions interpret as following: “MARK BEGIN” is defined as block beginning. “MARK END” is defined as block end. “COPY” refers to copy the block to the position of cursor. “MOVE” refers to move the block to the position of cursor. “DELETE” refers to delete all stitches in the block. “READ” means that the machine will take a design (you first input the number of design) as a block and read the block at end of editing design.

14-6 Help for Editing

Operation:

(1) Press "ESC" or "?" key to enter into the following menu:



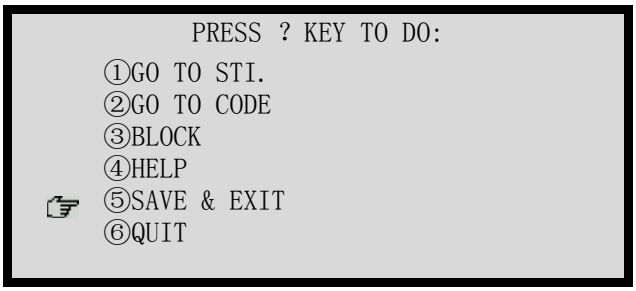
(2) Press "⇧"、"⇩" or digital key"4" to move the cursor to "HELP", and then press "↵" key.

(3) Display the help relating to “HOW TO EDIT A DESIGN”, press any key to end it.

14-7 Saving the Editing Design and Exit

Operation:

(1) Press "ESC" or "?" key to enter into the following menu:



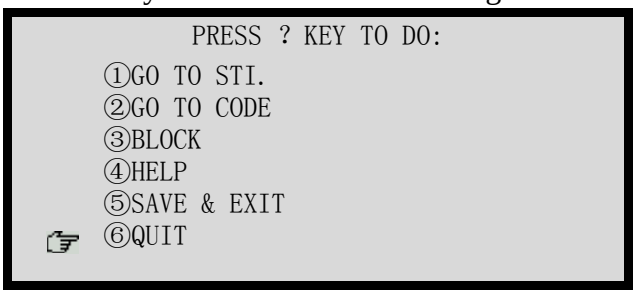
(2) Press "⇧"、"⇩" or digital key"5" to move the cursor to "SAVE & EXIT", and then press "↵" key.

(3) The computer begins to save the design, and then exit the editing.

14-8 Quitting the Editing

Operation:

(1) Press "ESC" or "?" key to enter into the following menu:



(2) Press "⇧"、"⇩" or digital key "6" to move the cursor to "QUIT", and then press "↵" key.

(3) The computer prompts you to save the editing design, and you can select [YES] or [NO], then press "↵" key to go to the design management operation.

(4) The computer exits the editing.

Chapter 15 Operation Help

This function helps users to perform the operation and displays prompting message.

Operation:

(1) At the main picture, press "[?]" key to enter the help-show frames

(2) Press any key to turn to other frames till exit.

Chapter 16 Monogramming and Making a High-speed Design

16-1 monogramming (optional)

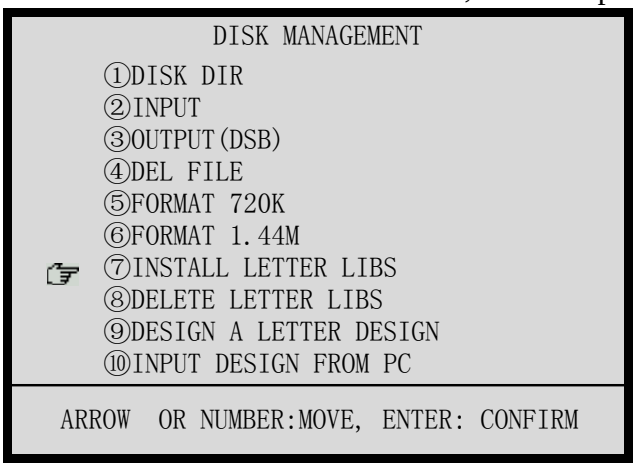
If there is a “Disk of Letter Library” with your embroidery machine, you can embroider any text with 28 fonts at will. In the disk there are 28 kinds of forms of written or printed characters which 26 capital letters of English alphabet, or 26 small letters of English alphabet, or digits 0~9. Users can create monograms in horizontal line, vertical line, or three-point arc.

For the first time, users must install the letter library from “Disk of Letter Library” to memory, which will run out about 200,000 stitches store and can be set free by the operation of “Deleting the letter library”.

1. Installing the letter library

Operation:

(1) Press "" key to enter the design management menu, then press “”to turn page and enter disk management menu, the following figure appears. Press "", "" or digital key "7" to move the cursor to "INSTALL LETTER LIBS", and then press "" key.



(2) Insert the disk of letter library according to the prompt, and press “” key.

(3) Wait for about 4 minutes to copy files.

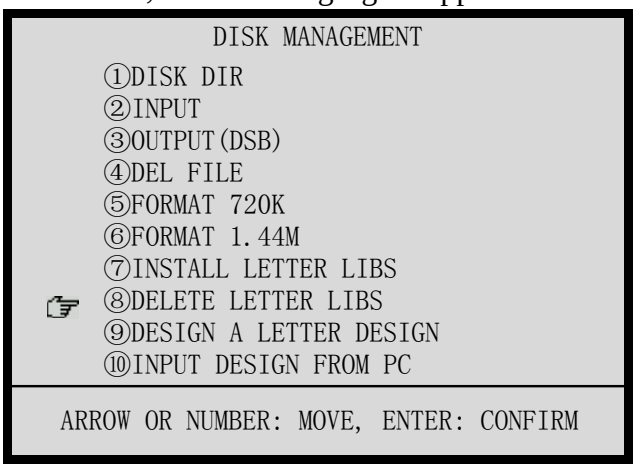
(4) Do the operation of “Listing the design in memory” (Seeing section 13-2) to check if the letter library is installed correctly. If so it were, the file count should increase by 56. Otherwise do the operation of “Deleting letter library” first and then do this operation again.

2. Deleting letter library

Operation:

(1) Press "" key to enter the design management menu, then press “”to turn page

and enter disk management menu, the following figure appears:



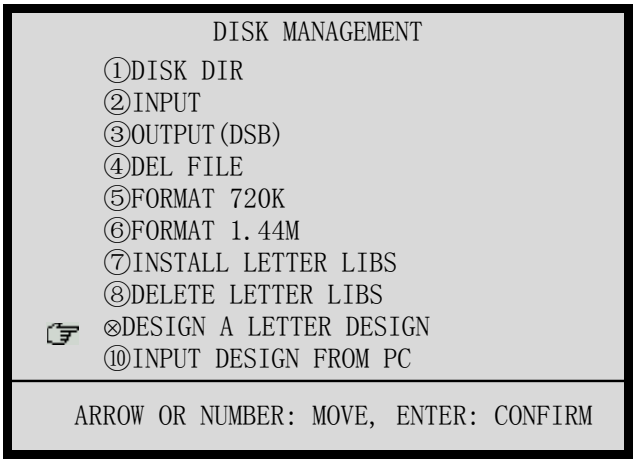
(2) Press "⇧"、"⇩" or digital key "8" to move the cursor to "DELETE LETTER LIBS", and then press "↵" key.

(3) Press "⇧" or "⇩" key to select [YES] and press "↵" key to delete the letter library.

3. Monogramming

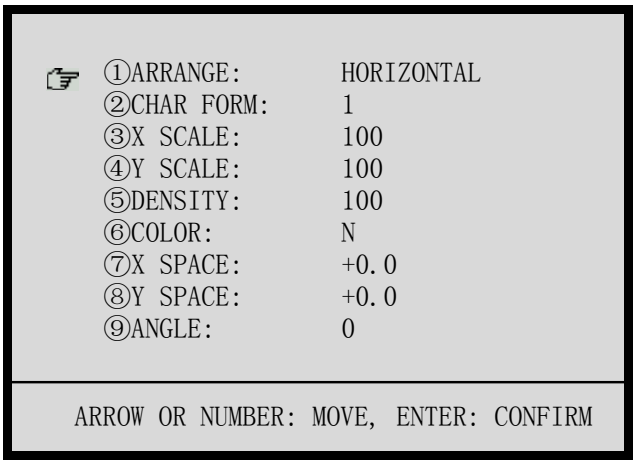
Operation:

(1) Press "" key to enter the design management menu, then press ""to turn page and enter disk management menu, the disk management menu shows as follows: (if the letter library has not installed, then can not input letter design.)



(2) Press "⇧", "⇩" or numeric keys to move cursor to set parameters of letter design, shows as follows, and press "ESC" key to begin. And, the unit of X-scale, Y-scale and satin stitch density is %, the unit of distance is mm, and the rotation angle: 1 degree. Press "ESC" key

to go on.



(3) For “ARC” arrangement, you should input the interrelated parameters, which include co-ordinates of starting point, middle point and end point. After setting the parameters, press "ESC" key to go to next step. If not for “ARC” arrangement, then jump to next step.

(4) Input all the characters according to the characters’ code printed on the LCD, and press “↵” key to go on, or press "ESC" key to exit.

(5) System shows the letter design, and you can adjust the letters about their positions, forms, angles, scales, etc. Digital keys 1, 3, 5 and 9 stand for positive direction, while 2, 4, 6 and 0 the opposite; Digital keys 7 and 8 are for selecting single numbers. Press "ESC" key to go on.

(6) System asks “If to create the letter design?” Select [NO] to exit, or select [YES] to go to next step.

(7) System shows the design. Press "ESC" key to end the show.

(8) System prompts to save the design. Select [NO] to give up, or select [YES] and press “↵” key to go to next step.

(9) Input a new design number and press “↵” key for saving.

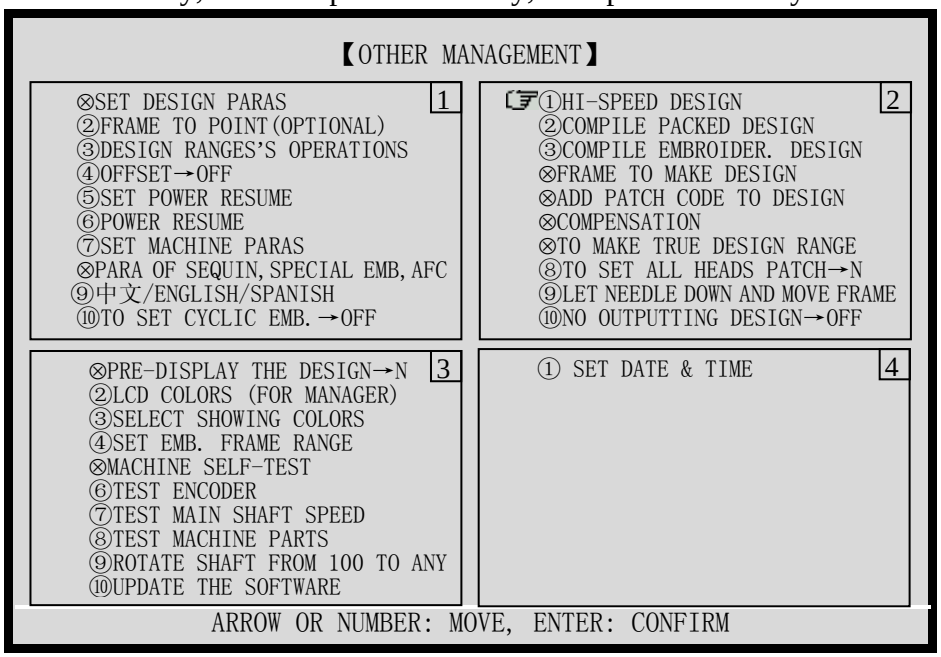
(10) System returns to the “Disk Management” menu.

16-2 Making a High-speed Design

If the stitch length is greater than 7.0mm during embroidering, the main shaft speed will slow down. And if you hope it does not occur, you can make a high-speed design from the design and embroider with the high-speed design, which will not make the main shaft slow down.

Operation:

(1) Press "[⌨]" key, and then press "[⚙]" key, then press "[↵]" key.



(2) Select the design, and press "[↵]" key.

(3) Input the number of the new high-speed design.

(4) The system will create the new high-speed design automatically.

(5) Press the key "[ESC]" to go to the main picture.

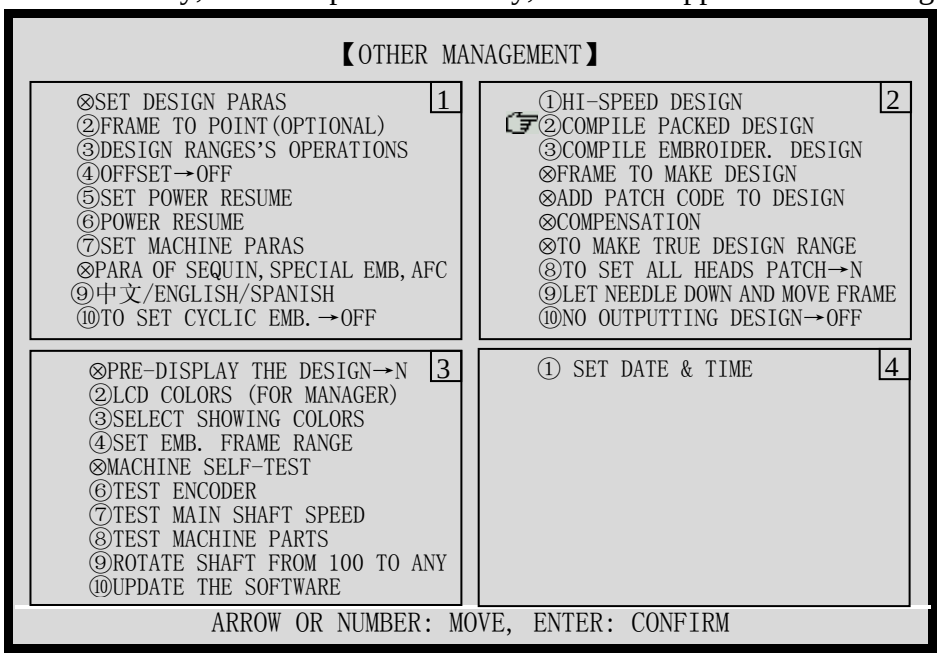
(6) If necessary, embroider the new design.

Chapter 17 Compile the Packed Design and Embroidering Design

17-1 Compile the Packed Design

Operation:

(1) Press "[⌐]" key, and then press "[PD]" key, the menu appears as following:



(2) Press "[⇧]"、"[⇩]" or digital key "2" to move the cursor to "COMPILE PACKED DESIGN", and then press "[↵]" key. Select the packed design which extension name is "PAR", and press "[↵]" key.

(3) Press "[↵]" key to confirm compiling the packed design, or press other key to exit.

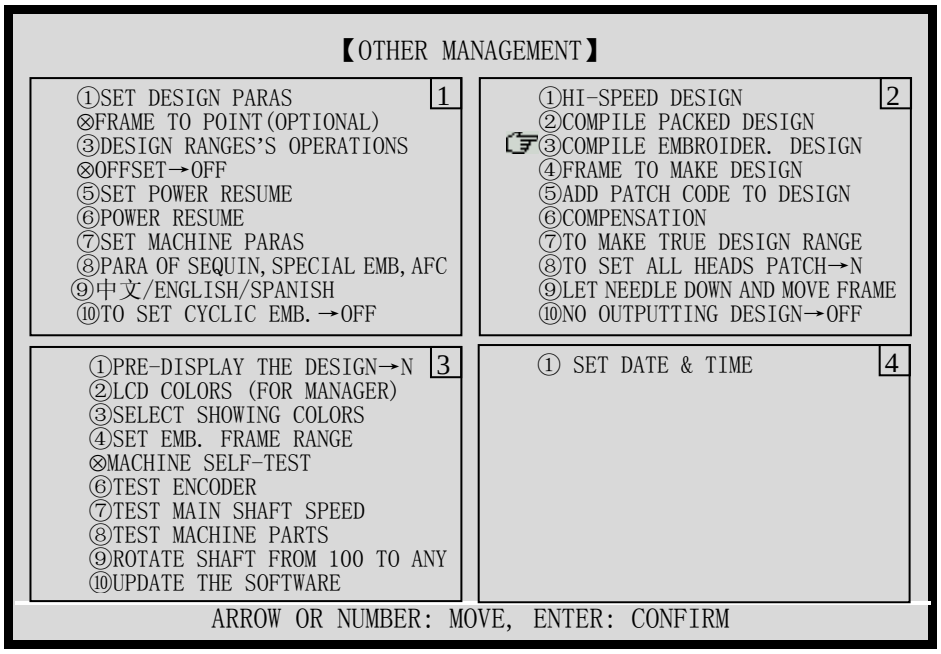
(4) Input the number of new design, and the system will create the new normal design automatically, which is identical with the packed design.

(5) Press "[ESC]" key to go to the main picture.

17-2 Compile the Embroidering Design

Operation:

(1) Press "[⌐]" key, and then press "[⚙]", "[3]" and "[↵]" to enter the process of compiling the embroidering design:



(2) Press "↵" key to confirm compiling the embroidering design, or press other key to exit.

(3) Input the number of new design, and the system will create the new normal design automatically, which is identical with the embroidering design having the embroidering parameters.

(4) Press "ESC" key to go to the main picture.

Chapter 18 Initialize the System Parameters during Electrifying

If some data in the system is illegal by rare chance, which is caused by outside interference or by software bugs, the machine may not work after power-on. To solve this problem, you can initialize the system parameters during electrifying as following:

Operation:

(1) Press and hold " " key, and turn on the power of machine.

(2) The system initializes the system parameters and gives a sound, and release off " " key, the machine will start working.

Chapter 19 Adding Patch Code to a Design

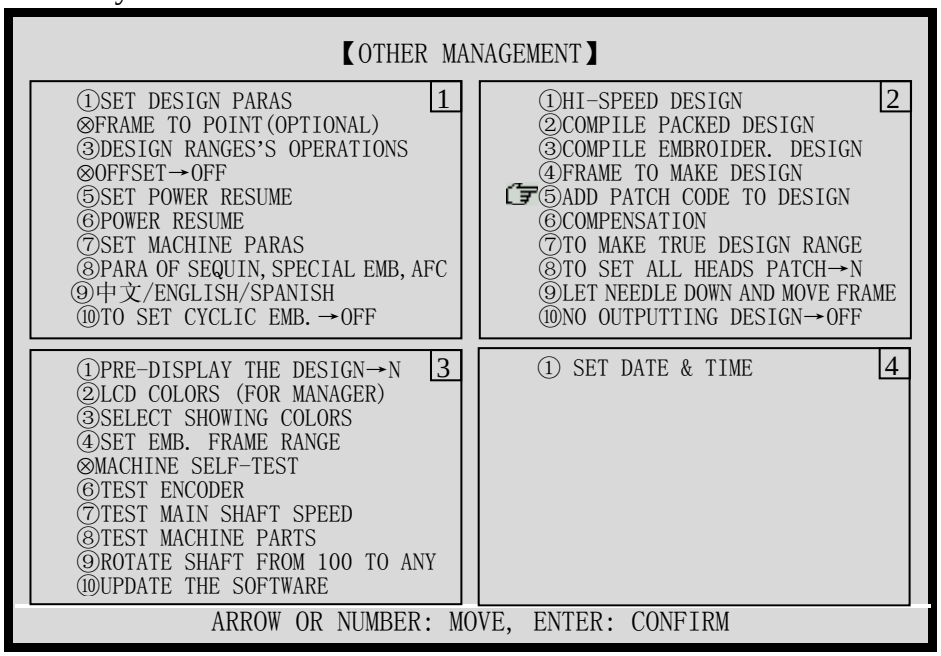
During embroidering, you may want to shift the frame in order to stick a patch expediently. The ways of shifting frame are: manual frame shifting and auto frame shifting.

Manual frame shifting is done as following: First, the machine automatically stops at a stitch of stop code while embroidering. Second, shift the frame to the deserved position by pressing the frame-shifting keys, and stick a patch. Then, press "[END]" and "[↵]" keys, you will make the frame move to the stop position. Finally, pull the bar to continue embroidering.

Auto frame shifting is done as following: First, add patch code to the design, which is describe in the next paragraph. Then, select the design and set it into embroidery confirmation status. Again, set the offset point for the design. Finally, pull the bar and start to embroider. The machine will pause at a stitch of patch code and automatically shift the frame to the offset point, which will let you stick a patch expediently. You can pull the bar to continue embroidering after stick the patch.

The operation of adding patch code to a design is as following:

(1) Press "[⌐]" key, and then press "[F0]" key, the menu appears as following. Press "[↑]"、"[↓]" or digital key "5" to move the cursor to "ADD PATCH CODE TO DESIGN", and then press "[↵]" key.



(2) Select the design for being added patch code, and press "[↵]" key

(3) According to the prompt, you will be asked to add a patch code for each of color code and stop code, or not do so.

(4) Press " " key to go to the main picture.

Chapter 20 The Enhanced Functions of Dot Key

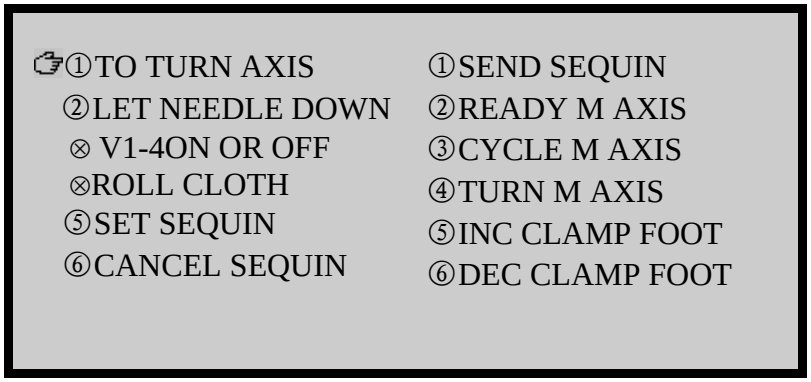
Warning: the operation would rotate the main shaft, and the operator should pay attentions to it.

20-1 Turn the Main Axis at 100 Degree Manually

If necessary, you can turn the main axis and make the main shaft stops at 100 degree by manually pressing the keys as follows.

Operation:

A. Press "·" key, the menu frame appears as follows:



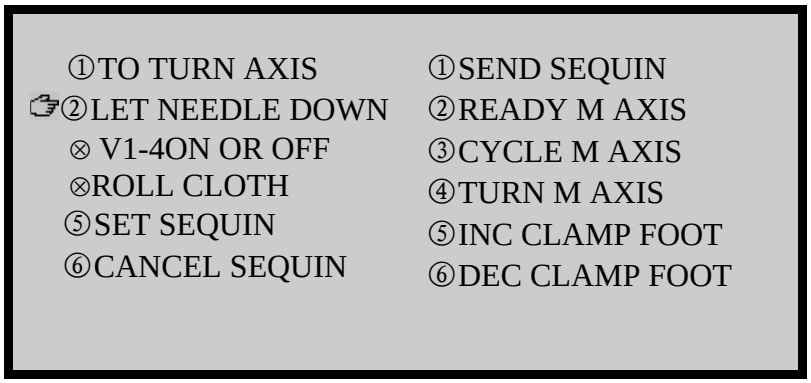
B. Press "↵" key to turn the main axis at 100 degree, or press "ESC" key to quit.

20-2 Let the Needle Sew Down and Move the Frame

The function is intended for special sewing. After the needles sewing down, the needles will fasten the embroidering cloth, and then the operator can loose the cloth from the frame and move the frame, what is for continuous embroidering in the long cloth.

Operation:

A. Press "·" key, the menu frame appears as follows:



B. Press "⇩" key to move the cursor to "LET NEEDLE DOWN ", and then press "↵" key.

C. There will be a prompt "press 'enter' key to confirm", if you press "↵" key, then the needle will go down into the embroidery, please be careful! At this time, you can loose the embroidery to move the frame. Or, you can press other key to give up.

D. Now, you can move the frame to the desired position. Press "↵" key to finish.

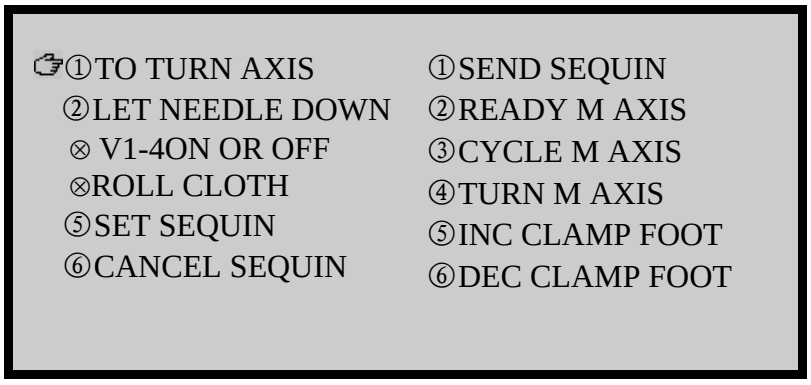
E. When the operation finished, you should turn the main shaft at 100 degree (Seeing the last section).

20-3 Switching On/Off of Valves in Quilt Embroidery

This function is for quilt embroidery. The user can open or close the four valves according to needs.

Operation:

A. Press "·" key, the menu frame appears as follows:



B. Press "⇩" key to move the cursor to "V1-4 ON/OFF", and then press "↵" key.

C. Select 1~4 and press"↵"to open/close the valve.

D. Repeat the above operation to set all the valves..

E. When the operation finished, press "ESC" to exit.

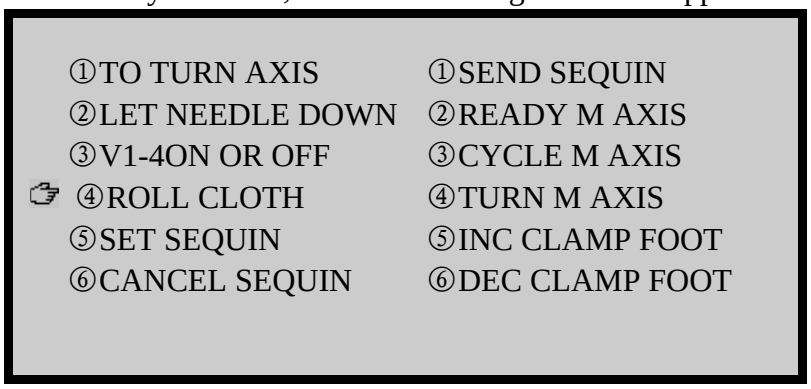
20-4 Manual Operation of Sequin Embroidery

This function is only available for the sequin embroidery machines. Operation include "SET SEQUIN" , "CANCEL SEQUIN" and "SEND SEQUIN"

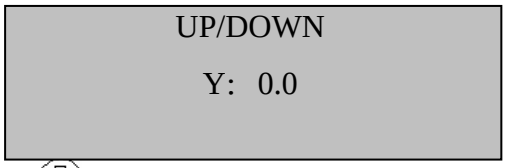
When the embroidery needle position is on the sequin needle position, the manual

operation of sequin embroidery is as follows:

(1) Press the key "." , and the following menu will appear:



(2) Press the key "⇩" to select "ROLL CLOTH" and then press "↵", a dialogue will appear:



Use "⇧" and "⇩" to adjust the range of cloth rolling.

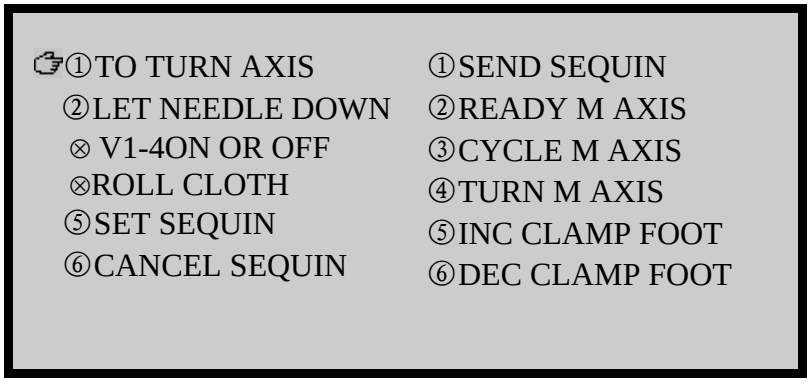
(3) Press the key "ESC" to exit.

20-5 M Axis Operation of Taping Embroidery

This function is only for machines with taping embroidery function and includes "READY M AXIS" , "CYCLE M AXIS" and "TURN M AXIS".

Operation:

(1) Press the key "." , and the following menu will appear:



(2) Press the "⇩" key to select "READY M AXIS" and press "↵" , and the A axis will rotate to the working point.

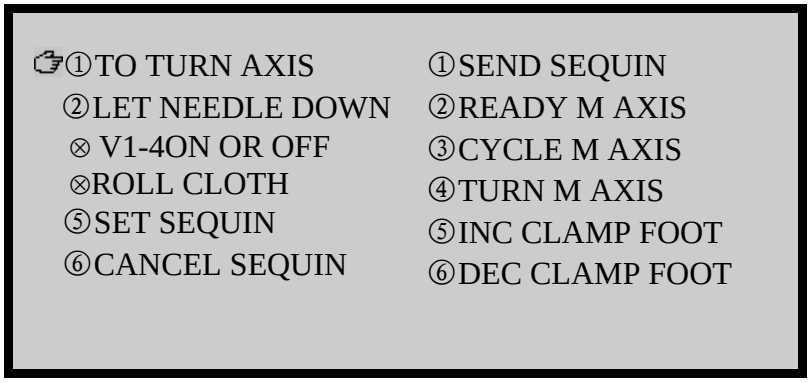
(3) Press the "⇩" key to select "CYCLE M AXIS" and press "↵", and the A axis will rotate to the zero point.

(4) Press t the "⇩" key to select "TURN M AXIS" and press "↵". Then press "⇦" or "⇨" to turn the M axis in different directions. Press "↵" to end the operation.

20-6 Operation of Clamp Foot

This function is only available for machines with taping embroidery function. When the embroidery needle position is on the taping embroidery needle position, the operation is as follows:

(1) Press the key "·", and the following menu will appear:



(2) Press the keys "⇩" to select "INC CLAMP FOOT" and press "↵", and the clamp foot of taping embroidery will increase.

(3) Press the keys "⇩" to select "DEC CLAMP FOOT" and press "↵", and the clamp foot of taping embroidery will decrease.

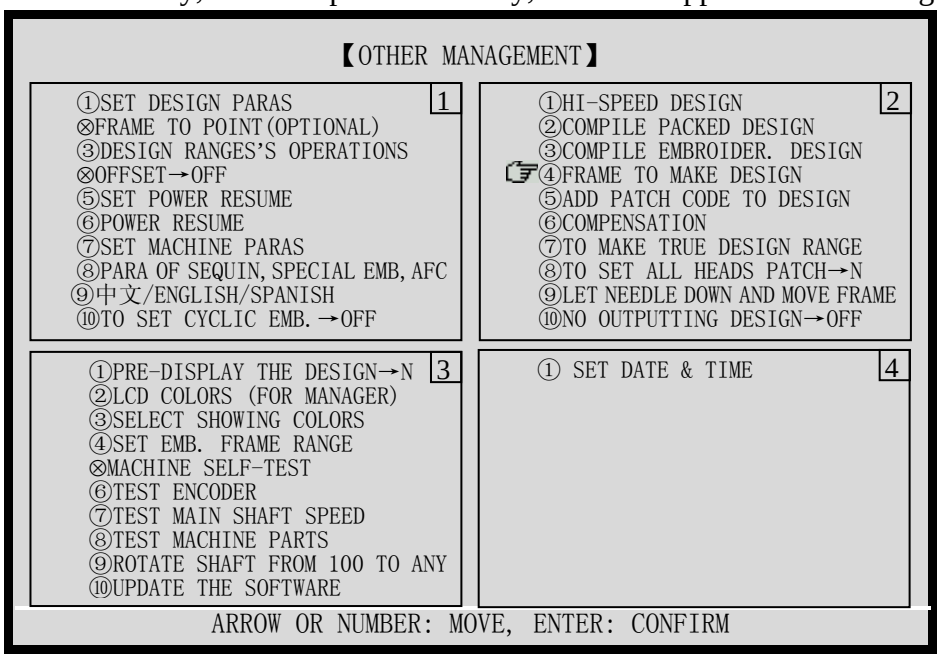
Chapter 21 Shift the Frame to Make a New Design

Sometimes, you want to embroider the boundary of a design before embroidering it. The function of “Shift the Frame to Make a New Design” can create such a design, and you can select the new design to embroider the boundary.

Operation:

(1) In embroidery preparation status, shift the frame to the starting point of design.

(2) Press "[ ]" key, and then press "[ ]" key, the menu appears as following:



(3) Press "[ ]"、"[ ]" or digital key "4" to move the cursor to "FRAME TO MAKE DESIGN", and then press "[ ]" key.

(4) According to the prompt, enter the maximum stitch length.

(5) Shift the frame along the boundary of deserved design, and press "[ ]" key to set the points which are assembled into the design trace. Meantime, you can press "[ ]" key to vary the stitch code between satin stitch and jump stitch.

(6) Press "[ESC]" key to end inputting the trace points.

(7) According to the prompt, input the number of new design, and press "[ ]" key to create the new design.

(8) Press "[ESC]" key to go to the main picture.

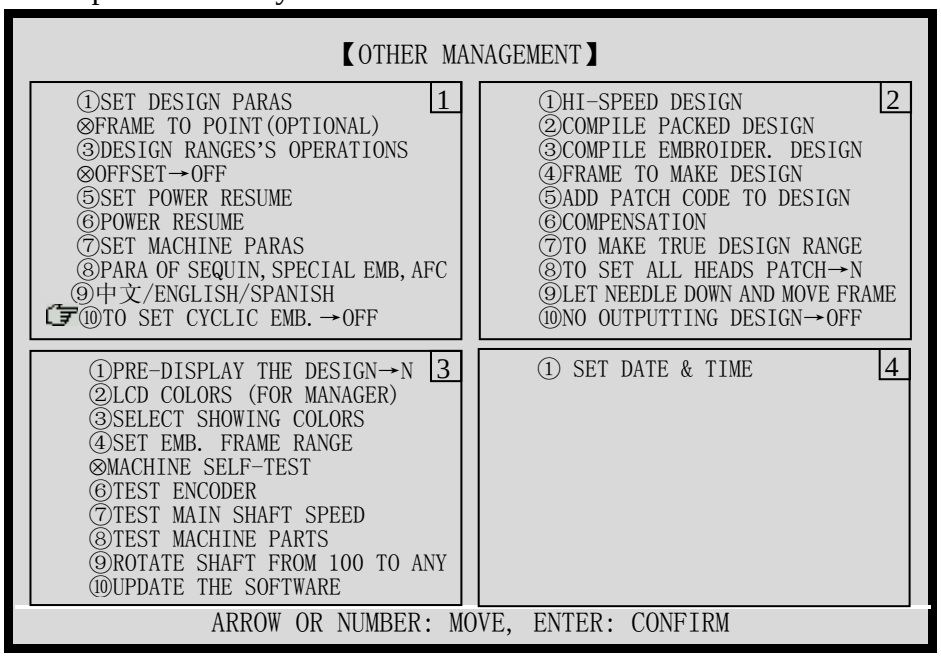
Chapter 22 Setting the Cyclic Embroidering

When the machine is set into the cyclic embroidering, the computer will make the frame return to the starting point and the machine will start embroidering the design once again without pulling the bar after the machine has finished embroidering the design one time.

This setting will increase the productivity of embroidering.

Operation of setting or canceling of the cyclic embroidering:

(1) Press "[⌙]", then press digital key "0" to move the cursor to " TO SET CYCLIC EMB.", and then press "[↵]" key.



(2) Press "[⇧]"、"[⇩]" or digital key "0" to move the cursor to " TO SET CYCLIC EMB.", and then press "[↵]" key.

(3) Press "[⇧]"、"[⇩]" keys to select "ON" or "OFF", and press "[↵]" key. If the machine is in the cyclic embroidering, the icon "[↻]" will appear. Otherwise, the icon "[⊘]" will replace the former icon "[↻]".

Chapter 23 Adjust the Machine's Braking (for Manufacturer)

23-1 Summary

This function is intended for advising the control parameters of machine braking, so let the machine braking be optimal. The computer provides with one of the following two methods.

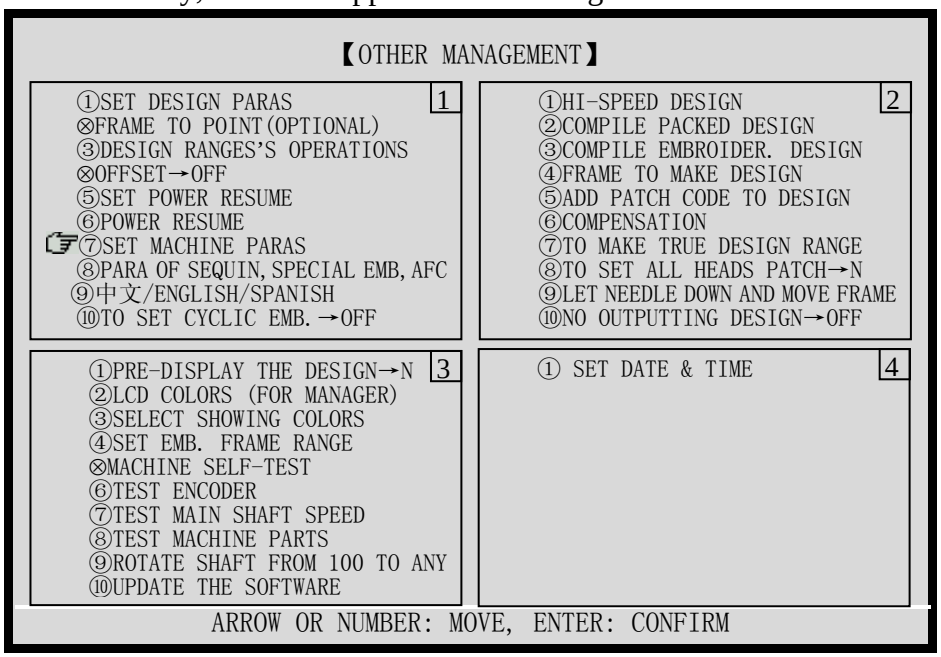
23-2 Setting Parameters of "SET BRAKE PARA." and "MAIN MOTOR PARA."

23-2-1 setting the parameter of "SET BRAKE PARA."

This setting is use for adjusting the stop position of main shaft. If the main shaft stops at smaller than 100 degree, increase the value duly. If the main shaft stops at greater than 100 degree, decrease the value duly. The range of the parameter is form 0 to 30.

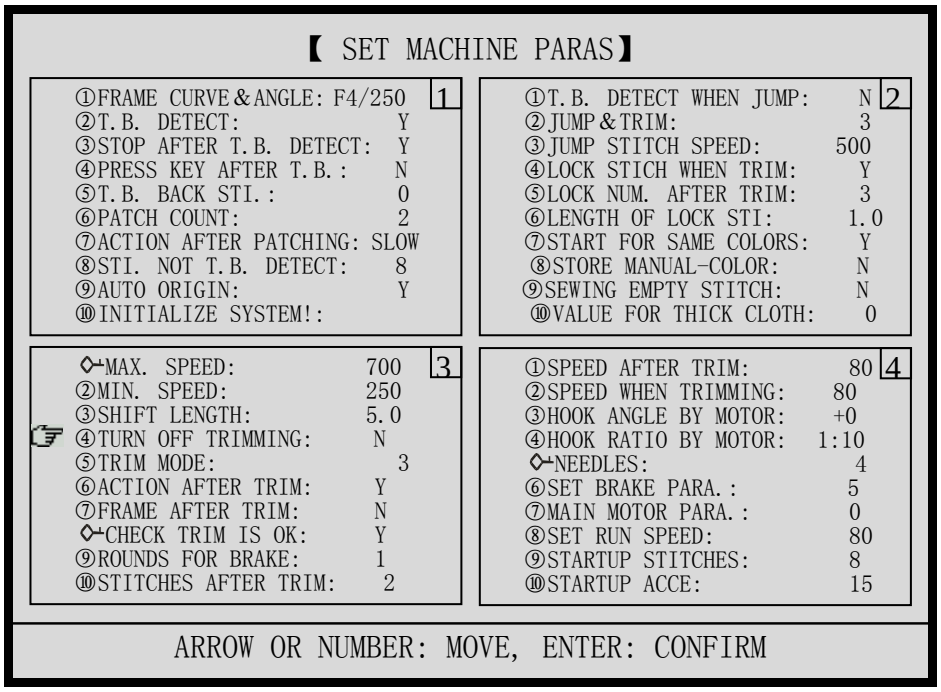
Operation:

(1) Press "[]" key, the menu appears as following:



(2) Press "[]"、"[]" or digital key "7" to move the cursor to "SET MACHINE PARAS", and then press "[]" key.

(3) Press the key "[]" three times to turn to page 4, which is as following:



(4) Press "⇩" to move the cursor to "SET BRAKE PARA.", and then press "↵".

(5) Press "⇧"、"⇩" key to change the value. （Users shall increase the value if the main shaft usually stops at smaller than 100 degree, while decrease the value if the main shaft usually stops at greater than 100 degree.）

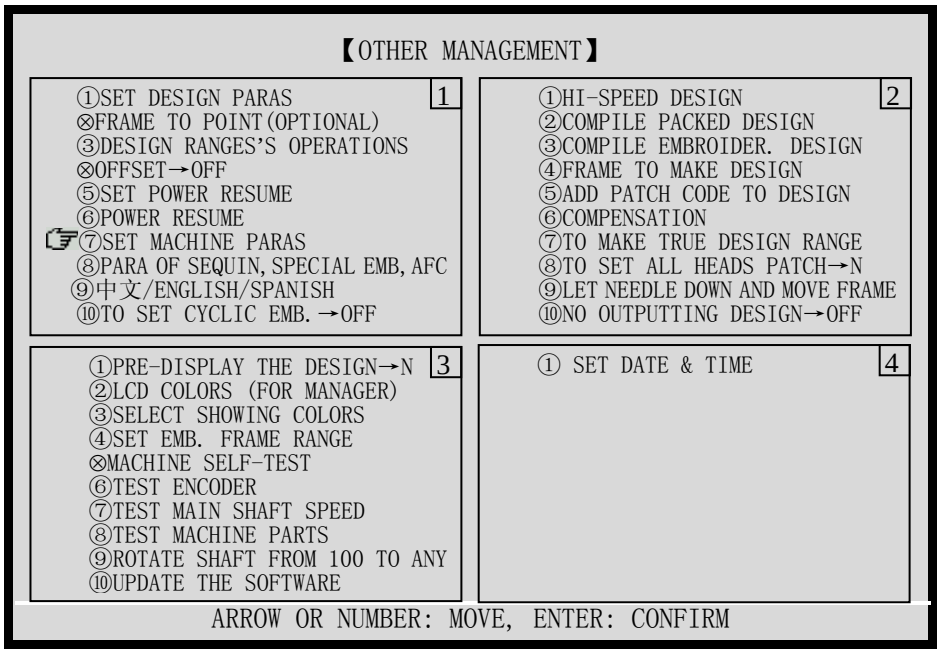
(6) Press "↵" key to set the parameter.

23-2-2 setting the parameter of "MAIN MOTOR PARA."

This setting is use for adjusting the match of the main motor and the mechanical parts. The range of the parameter is form 0 to 30, which default value is 0. During braking, if the main shaft wobbles, quivers, or turn around, you should increase the value. Or the main shaft spins too fast, you should decrease the value.

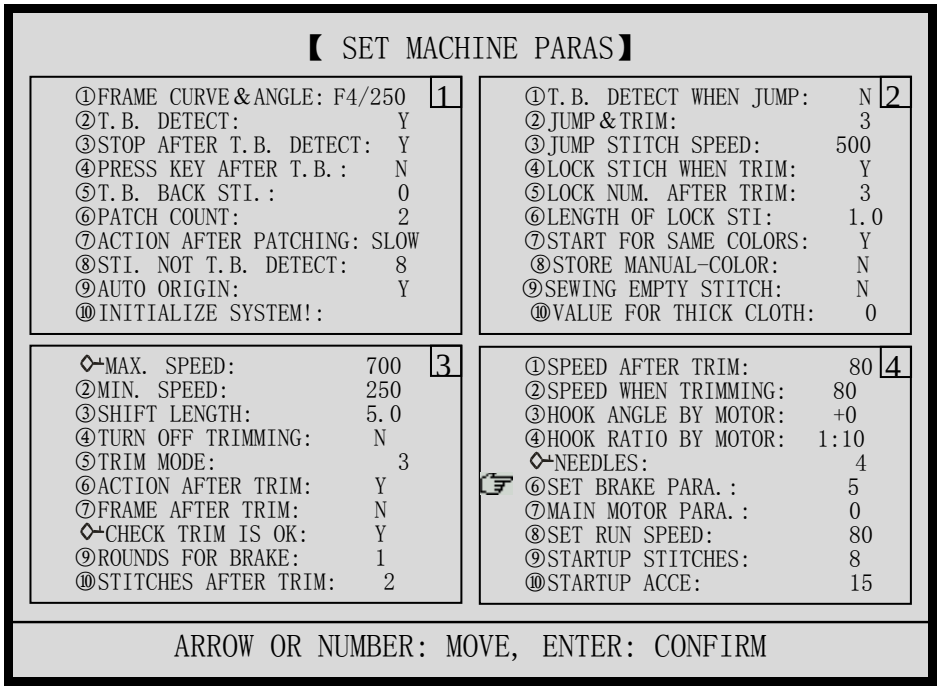
Operation:

(1) Press "📏" key, the menu appears as following:



(2) Press "⇩" or digital key "7" to move the cursor to "SET MACHINE PARAS", and then press "↵" key.

(3) Press "PD" key three times to turn to page 4, which is as following:



(4) Press "⇩" to move the cursor to "MAIN MOTOR PARA.", and then press "↵" key.

(5) Press "⇧"、"⇩" key to change the value.（During stop, if the main shaft shakes or gyres, you can increase the value of the parameter.）

(6) Press "↵" key to set the parameter.

(7) Repeat the above operation till the machine brakes normally.

Chapter 24 Let the Needle Sew Down and Move the Frame

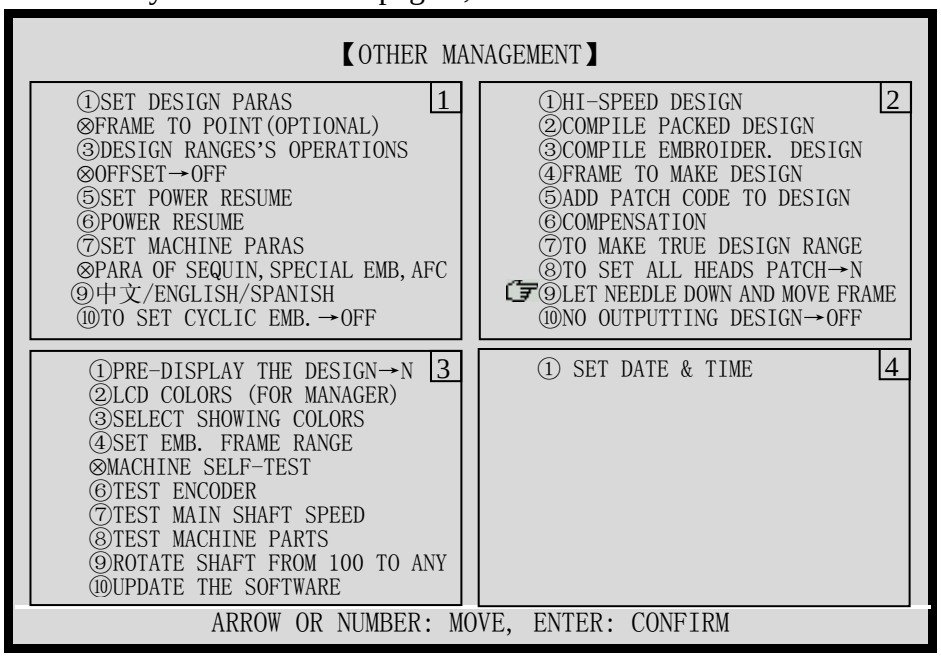
Warning: the operation will rotate the main shaft, and the operator should pay attention to it.

The function is intended for special sewing. After the needles sewing down, the needles will fasten the embroidering cloth, and then the operator can loose the cloth from the frame and move the frame, what is for continuous embroidering in the long cloth.

Operation:

(1) Press "[ ]" key to enter into the menu of “OTHER MANAGEMENT”:

(2) Press the key “[ ]” to turn to page 2, then screen will show as follows:



(3) Press "[ ]" or digital key "9" to move the cursor to "TO LET NEEDLE DOWN AND MOVE FRAME", and then press "[ ]" key.

(4) Screen shows “Press Enter to confirm”, press "[ ]" key to let the needle sew down (Caution) or press other keys to exit. After the needle down, one can loose the cloth and move the frame.

(5) Now, you can move the frame to the desired position. Press "[ ]" key to finish.

(6) After ending the operation, you should turn the main shaft at 100 degree (See Chapter 20).

(7) At the moment, you can continue embroidering.

Chapter 25 No Output of the Design in Memory

25-1 Summary

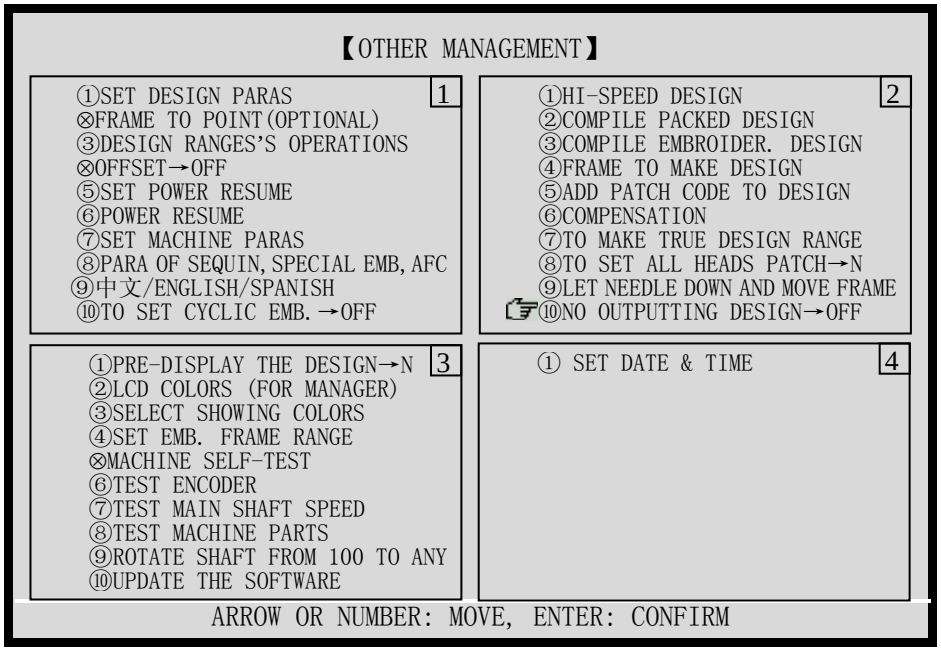
The function will prevent the design in memory from being copied illegally. In case the user of machine has set a password for "NO OUTPUTTING DESIGN", the other man can not execute the operation of "OUTPUT (DSB)" in disk management menu. If the user want to do the operation, he must cancel the password for "NO OUTPUTTING DESIGN".

25-2 Setting a Password for "NO OUTPUTTING DESIGN"

Operation:

(1) Press " " key to enter into the menu of “OTHER MANAGEMENT”:

(2) Press the key “ ” to turn to page 2, then screen will show as follows:



(3) Press " "、" " or digital key "0" to move the cursor to "NO OUTPUTTING DESIGN", and then press " " key.

(4) Press " " key to confirm the operation, or press other key to give up it.

(5) Input a 4-digital password (except for "0", "00", "000", "0000"), press " " key to finish.

25-3 Canceling the Password for "NO OUTPUTTING DESIGN"

Having set a password, you can do the steps in section 25-2 and input the password to cancel it.

In addition, the computer will cancel the password automatically by executing of the operation of "CLEAR ALL" in design management menu.

Chapter 26 Testing

Only experienced maintenance man is permitted do this operation, or you may be injured.

26-1 Computer Testing

This operation is to test the main board circuit and memory bank by computer itself.

26-2 Encoder Testing

This operation is to check the OPL, APL and BPL of the encoder and display the value by turning the main shaft.

26-3 Main Shaft Speed Testing

This operation is to display the set speed and real speed comparatively by turning the main shaft to debug the main shaft board conveniently.

26-4 Mechanical Testing

This operation is to test bar switch, limit switch, head solenoid, thread-trimming solenoid/motor, thread-holding solenoid, thread-catching solenoid/motor and thread break detecting, sequin device test, special embroidery device test, etc.

26-5 Turn the Main Shaft to Any Angle

This operation is to turn the main shaft from 100 degree to any angle to maintain and test machine conveniently.

Chapter 27 Embroidering Management and Errors Statistics

27-1 Management Information in the Main Picture

In embroidery confirmation state, user can view the following management information: Current Works, Total Works, Thread Broke Number, Thread Broke Time. As for these definitions, see the next section.

These information are varied with the process of embroidering, they are refreshed and displayed when the machine stop embroidering.

27-2 Statistic about embroidering

The computer can provide some statistic data for the machine manager to settle the embroidering work.

Operation:

(1) Press "[ ]" key to show statistic data about embroidering, which is as following:

【EMBROIDERY】

TOTAL TIME:	4:38:45
EMB. TIME:	4:32:19
STOP TIME:	0:6:26
T.B. NUM:	10
T.B. TIME:	0:20
TOTAL WORKS:	22
POWER NUM:	2

【DESIGN】

NUMBER	COUNT	STITCHES	TIME	WORKS
12	1	21583	2:52:45	5
99	1	64	0:0:43	1
1	1	3200	1:30:18	16
0	0	0	0:0:0	0
0	0	0	0:0:0	0
0	0	0	0:0:0	0
0	0	0	0:0:0	0
0	0	0	0:0:0	0
0	0	0	0:0:0	0
0	0	0	0:0:0	0

These data are based on the computer real-time clock and the software timing. The software times at the following condition: (1) the machine is electrified. (2) the machine stops from running. (3) the machine start embroidery from stop. (4) the computer enters into "embroidery confirmation". (5) the computer enters into "embroidery preparation". (6) the machine finishes embroidering one normal design. (7) user presses " " key to show statistic data about embroidering.

So, we can conclude that the computer times from the last timed time to the time of machine power off.

【EMBROIDERY】 item gives the data of user's embroidering time, and these definitions are as following:

"TOTAL TIME" is the time that the machine is on.

"EMB. TIME" is the time that the machine is embroidering

"STOP TIME" is the time that the machine stops.

"T.B. NUM" is the amount that computer detects thread broke.

"T.B. TIME" is the average time from detecting thread broke to pulling the bar to embroider.

"TOTAL WORKS" is the total count that the machine has finished embroidering the normal designs by one head.

"POWER NUM" is the count that the machine is electrified.

【DESIGN】 item gives the data of the embroidered designs, which is defined as following. In the table, "NUMBER", "COUNT" or "STITCHES" of every row is not same with the data of each other.

"NUMBER" is No. of the embroidered design.

"COUNT" is the amount of the normal designs that are contained in the embroidered design.

"STITCHES" is the stitch number of the embroidered design.

"TIME" is the total time from selecting the design and entering into "embroidery confirmation" to entering into "embroidery preparation".

"WORKS" is the total amount that the machine embroidered the normal designs by one head while embroidering the design.

(2) At this time, you can press " " key to clear all of data, or press other key to

continue.

(3) The LCD will display the error statistic table which contain the last 10 errors' time of each error.

【ERROR】

ERROR NUM:	1				
ERROR TYPE	TIME TABLE OF 10 RECENT ERRORS				
CAN NOT HOOK	_	_	_	_	_
	_	_	_	_	_
STOP POSITION ERR	_	_	_	_	_
	_	_	_	_	_
CONTROL MEMORY LOST	_	_	_	_	_
	_	_	_	_	_
STEP MOTOR ERR	_	_	_	_	_
	_	_	_	_	_
CHANGE CLR OVERTIME	_	_	_	_	_
	_	_	_	_	_
HALF RETURN ERR	_	_	_	_	_
	_	_	_	_	_
NEEDLE POSTION ERR	2001:10:30	_	_	_	_
	_	_	_	_	_
MAIN MOTOR OVERTIME	_	_	_	_	_
	_	_	_	_	_
CHANGE CLR OVERLIMIT	_	_	_	_	_
	_	_	_	_	_
CAN NOT TRIM	_	_	_	_	_
	_	_	_	_	_

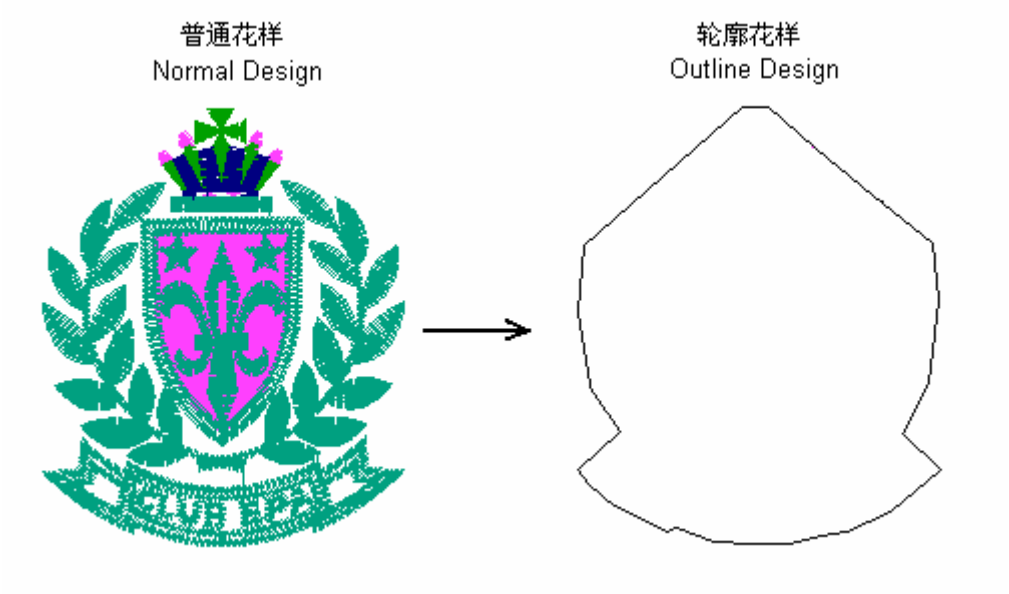
(4) At this time, you can press "C" key to clear all of data, or press other key to exit.

Chapter 28 Generating the Outline Design

28-1 Summary

This function is for generating the outline design for one normal design, which can be embroidered to dig a hole and fix the embroidering cloth。

For example:

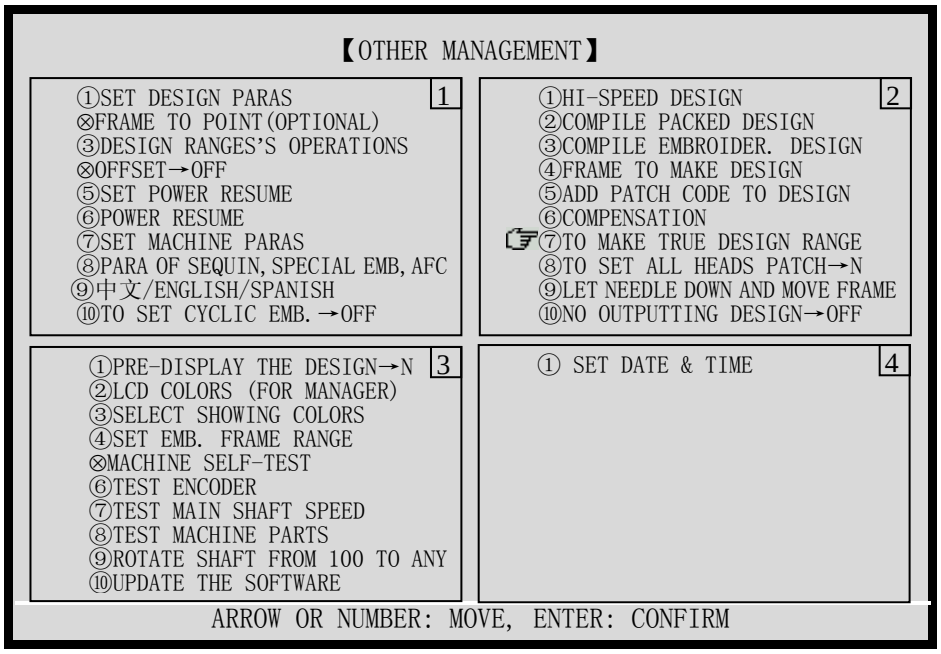


28-2 Generating the outline design

Operation:

1、 Press “ ” key, and enter into “Mode Management”.

2、 Press “ ” key, the following menu is prompted:



3、 Press "⇩" or "7" key, to move the cursor to "TO MAKE TRUE DESIGN RANGE" and press "↵" key.

4、 Select one normal design.

5、 Input the design No. of outline design.

6、 The outline design is generated automatically.

7、 Press "ESC" key to quit.

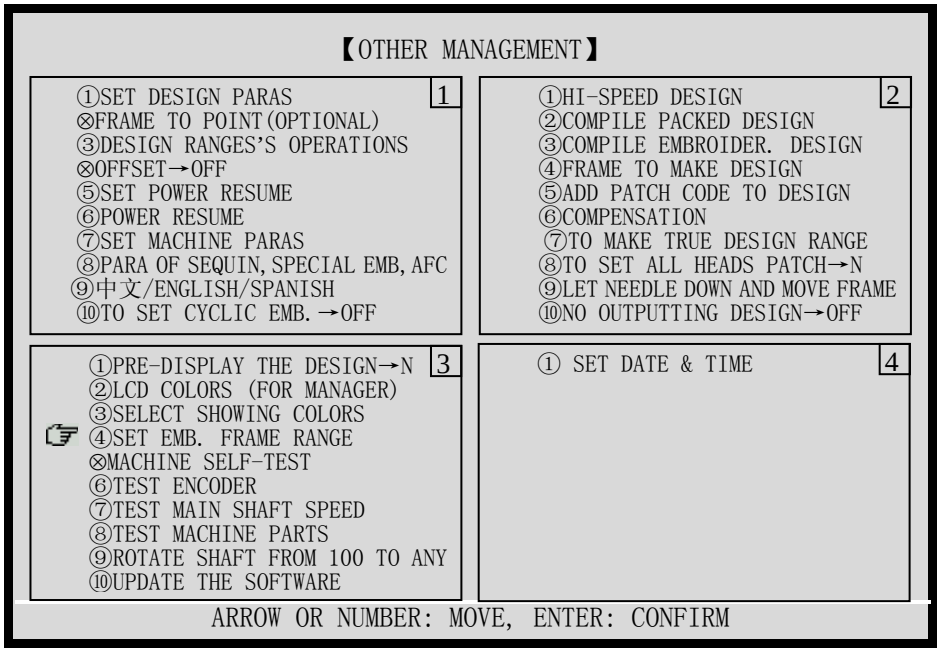
Chapter 29 Setting the Embroidery Frame Range

The function sets the range of the embroidery frame. When the frame is out of this range, the machine will give the prompts: “FRAME OVER LIMIT”.

Operation:

(1) Press "" key to enter into the menu of “OTHER MANAGEMENT”:

(2) Press the key “” to turn to page 2, then screen will show as follows:



(3) Press "", "" or digital key "4" to move the cursor to "SET EMB. FRAME RANGE", and then press "" key.

(4) The machine will prompt: “MOVE FRAME TO DOWN-LEFT, AND ENTER”. You can press “” 、 “” 、 “” 、 “” keys to move the frame to down-left corner. And press "" key to continue.

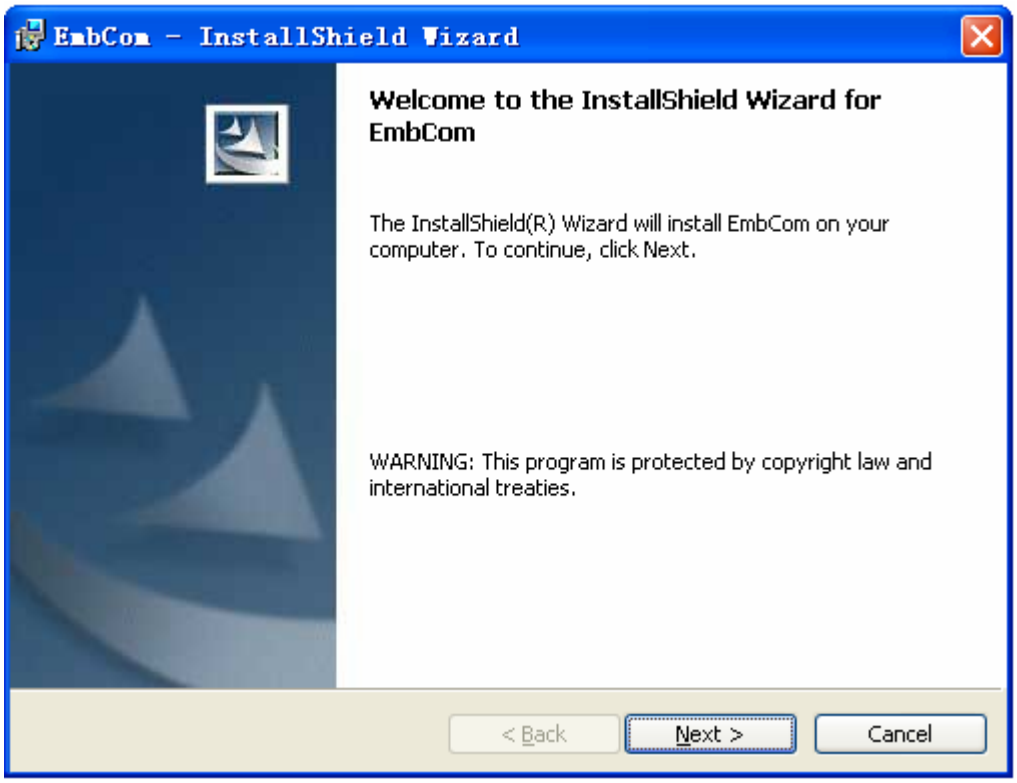
(5) The machine will prompt: “MOVE FRAME TO UP-RIGHT, AND ENTER”. You can press “” 、 “” 、 “” 、 “” keys to move the frame to up-right corner. And press "" key to end.

Chapter 30 Manual of Embcom Software

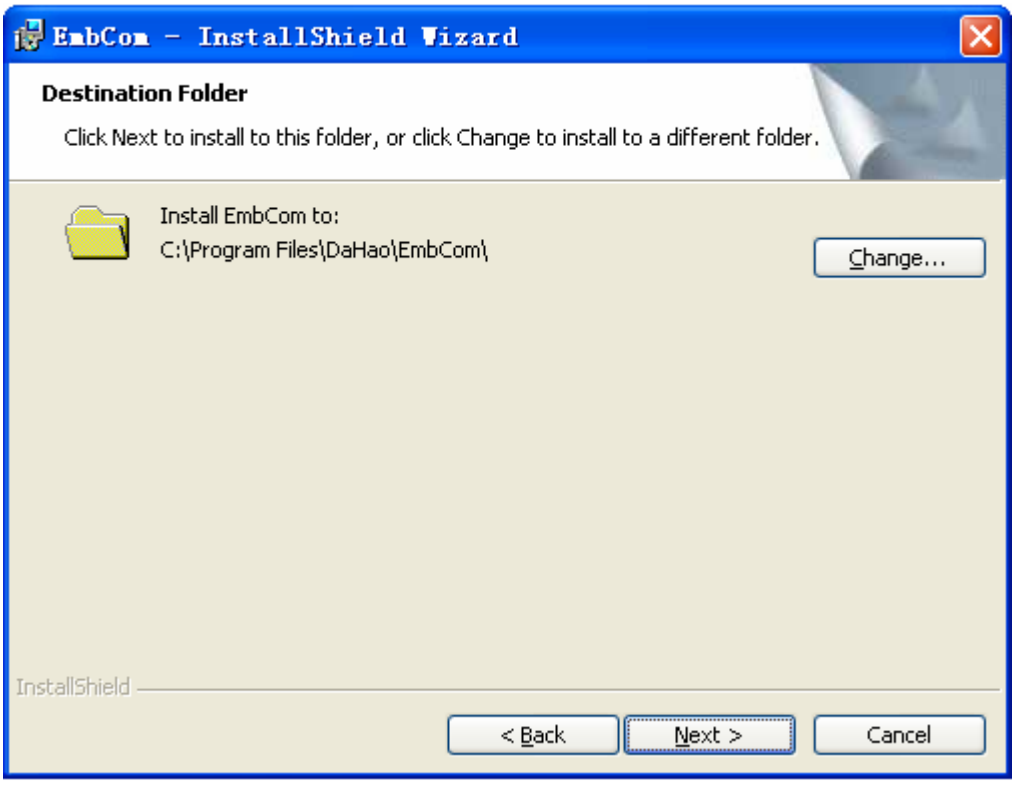
30-1 Soft Installation

To install this software as following:

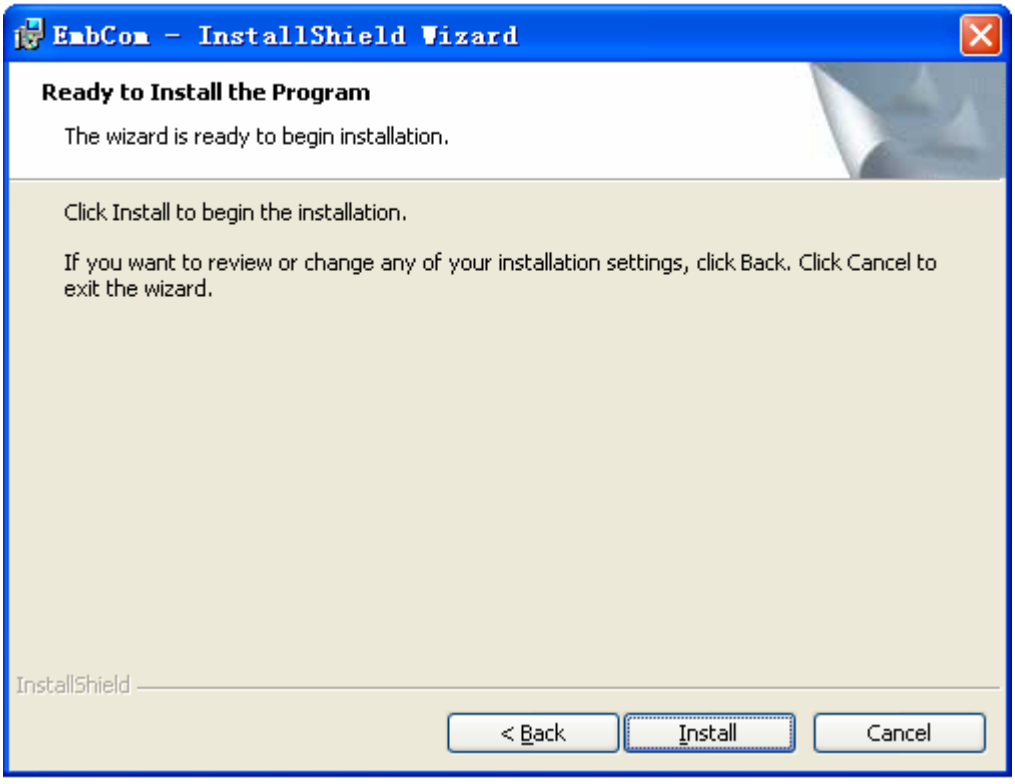
(1) Run SETUP.EXE in Embcom Setup Disk.


EmbCom - InstallShield Wizard
Welcome to the InstallShield Wizard for EmbCom
The InstallShield(R) Wizard will install EmbCom on your computer. To continue, click Next.
WARNING: This program is protected by copyright law and international treaties.
< Back
Next >
Cancel

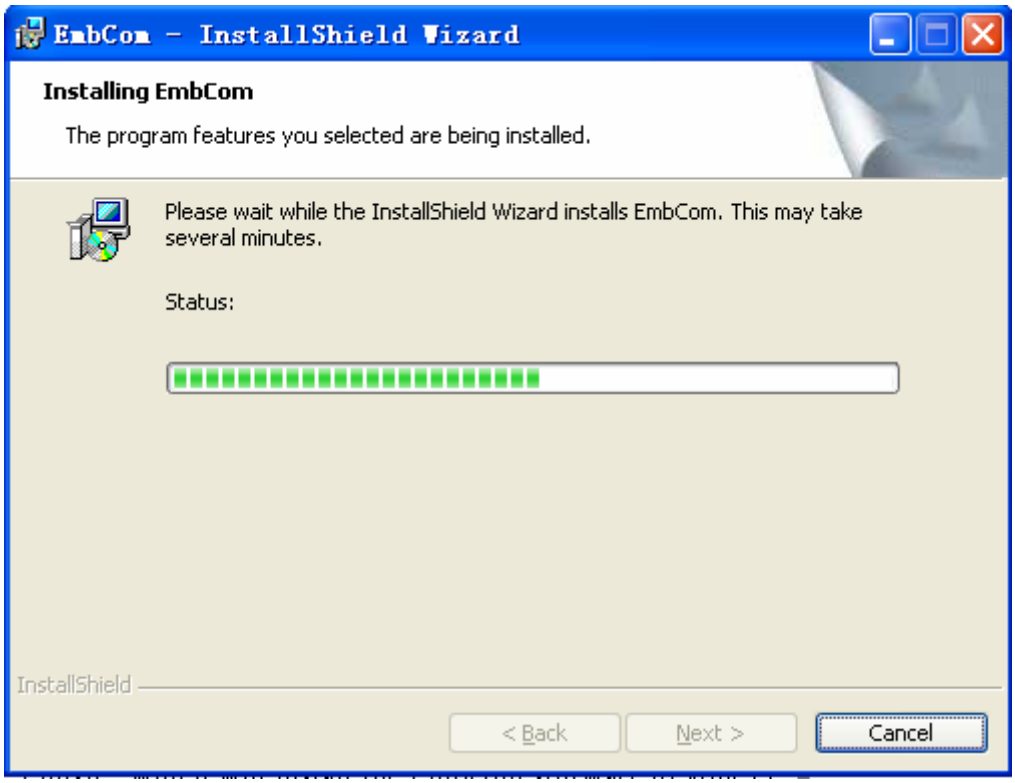
(2) Click “Next>” to continue installation, otherwise click “Cancel” to quit installation.



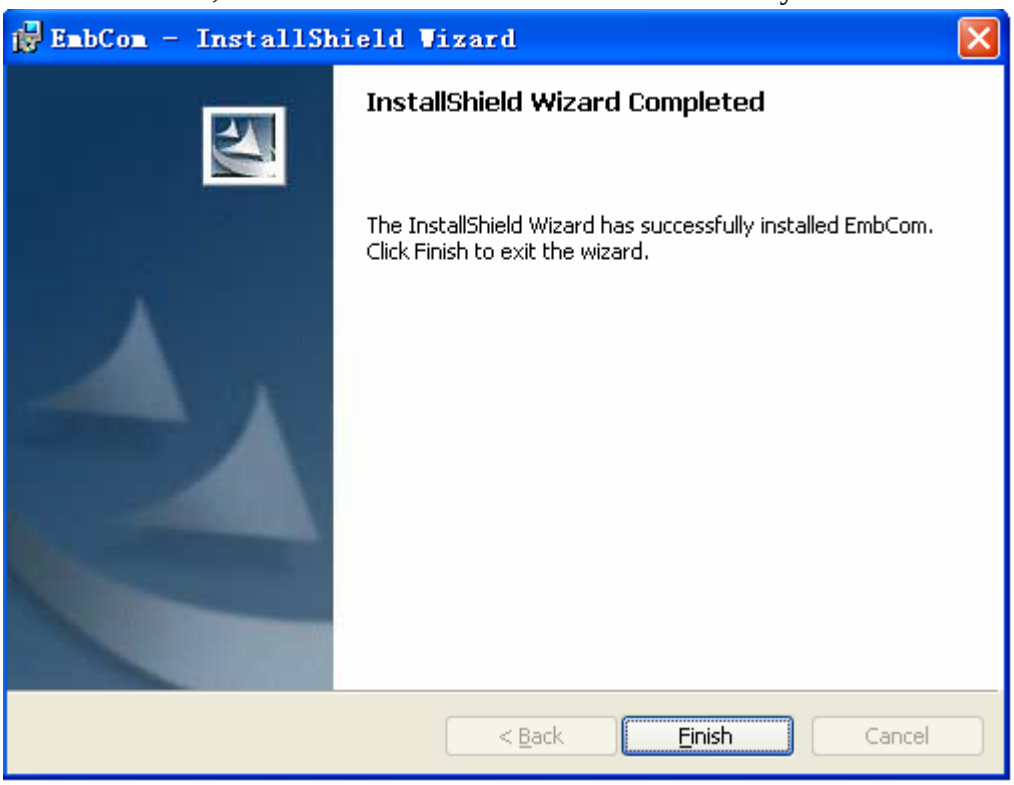
(3) Click “Next>” to select the default destination folder.


EmbCom - InstallShield Wizard
Ready to Install the Program
The wizard is ready to begin installation.
Click Install to begin the installation.
If you want to review or change any of your installation settings, click Back. Click Cancel to exit the wizard.
InstallShield
< Back
Install
Cancel

(4) Click “Install>” to go on.


EmbCom - InstallShield Wizard
Installing EmbCom
The program features you selected are being installed.
Please wait while the InstallShield Wizard installs EmbCom. This may take several minutes.
Status:
InstallShield
< Back
Next >
Cancel

(5) Click “Finish”, which will install the Embcom software to your PC.


EmbCom - InstallShield Wizard
InstallShield Wizard Completed
The InstallShield Wizard has successfully installed EmbCom. Click Finish to exit the wizard.
< Back
Finish
Cancel

30-2 Soft Uninstall

(1) Open “Add/Remove Programs” in Control Panel of Windows.

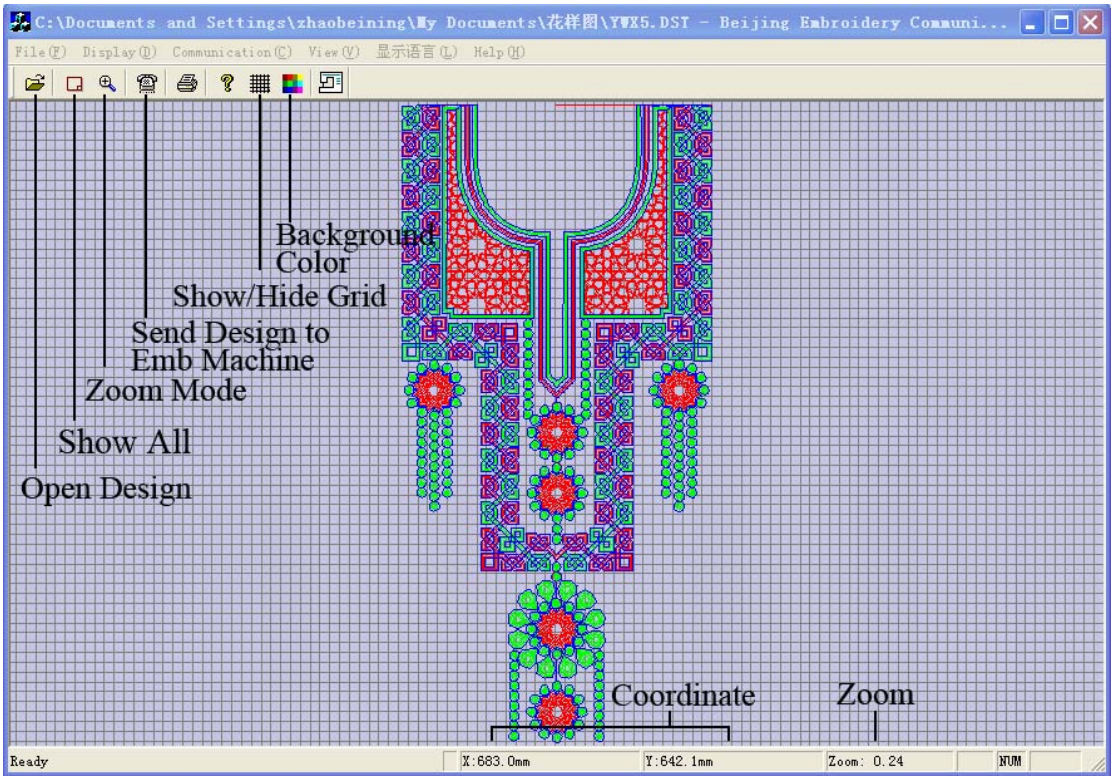
(2) Select “EMBCOM” and Click “Add/Remove” button.

(3) Operate computer by hint.

(4) Click “Finish” to remove the Embcom software.

30-3 Run and Use the Embcom software

Run “EMBCOM” from install folder.



A. In first use,one must select the machine type as following: click “Communication” → “select type”, and select “BECS-1X8”.

Special Attention: “BECS-X8” suits type 08,18,28.

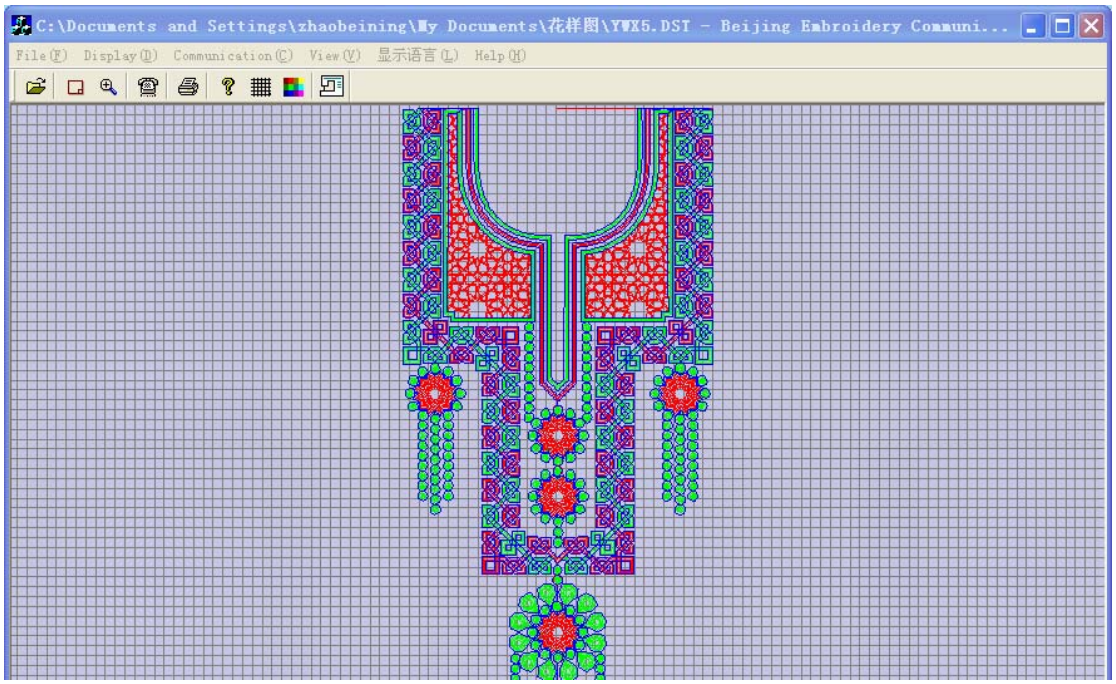
“BECS-1X8” suits type 102,152,202,252,302,352,108,158,208,258,308,358,128,228,328,118,218,318.

BECS-X6 suits type BECS-16,216,26,226,266,316,366.

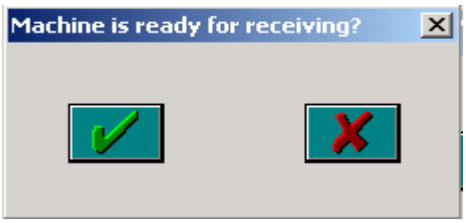
BECS-CX8 suits type 6C18,C18.

BECS-XX9 suits type 1X9,2X9,09,59S.

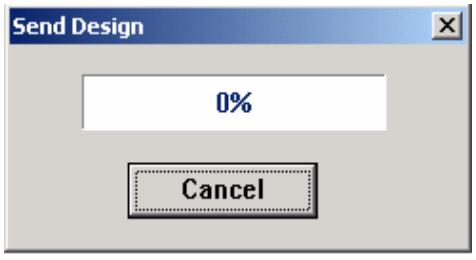
B. Click “Open Design” button to open one design.

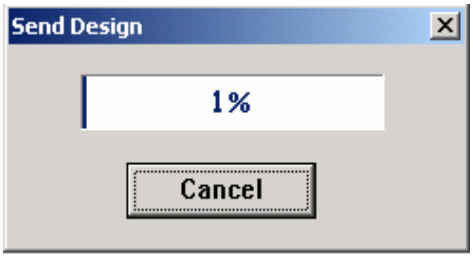

C:\Documents and Settings\zhaobeining\My Documents\花样图\YWX5.DST - Beijing Embroidery Communi...
File(F) Display(D) Communication(C) View(V) 显示语言(L) Help(H)

C. Click “Send Design to Machine” button, then the soft will prompt: “Machine is ready for receiving?”



D. (Now, the embroidery machine is ready for receiving design. For details, please see next section.) Click “ ” button to start design receiving.





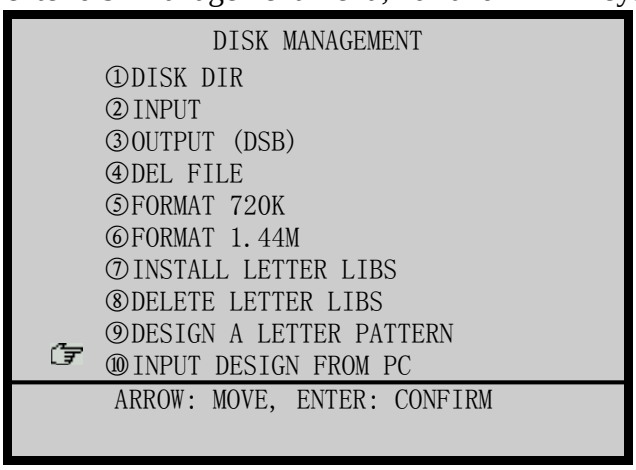
E. The computer will start to send the design to embroidery machine. Screen displays the percentage increase from 1% to 100% (as the up-left image shows). If communication has error or is not ready, the computer will show the up-right image or prompt: “Error in communication or machine is not ready.”

Attentions: if you want to quit the operation during sending the design, please press Space Key or Enter Key to stop (The mouse key is forbidden at the time).

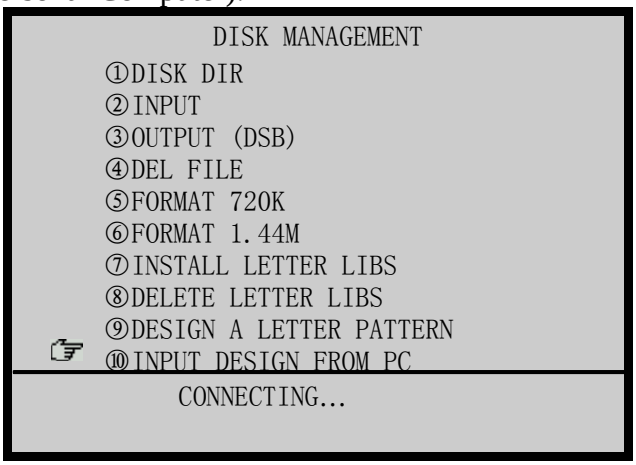
F. Repeat the above steps to send other designs.

30-4 Communication Operation of Embroidery Machine

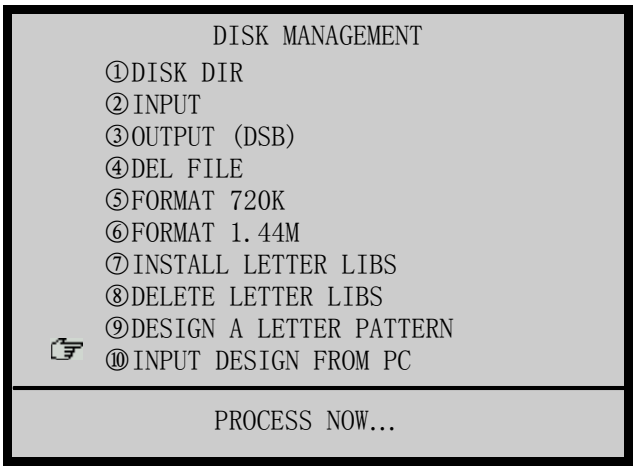
(1) In the main frame, press "" key to enter the design management menu, then press "" to turn page and enter disk management menu, "0" and "" keys to enter the operation:



(2) The prompts is as: "INPUT A NEW DESIGN: ", and you should input a new design number, and press "" key to go on. Now, machine will prompts: "Connecting…", and wait connecting with PC(Personal Computer).



(3) Once the communication starts, the machine will starts receiving the new design, and prompts as: "Processing now…".



(4) After succeeding in receiving the design, machine will return to “DISK MANAGEMENT” frame. Otherwise, the machine will prompts as: “Communication Fail”, which causes should be: Communication board (Board E806) has some problems, Connecting between PC and machine is not ok, Control software of machine is not ok, or the Embcom software in PC is not correctly running.

Chapter 31 Table of the Machine Parameters

No.	Parameter	Suggested Value	Note
1	FRAME CURVE＆ANGLE	F2/260	F1 ~ F6 are frame moving curves. The other figures are starting angles for frame moving.
2	T.B. DETECT	Yes	“Yes”: auto detecting in case of thread break “No”: no detecting in case of thread break
3	STOP AFTER T.B. DETECT	Yes	“Yes”: machine stop after thread break detected “No”: machine doesn’t stop and the led blinks after thread break detected
4	PRESS KEY AFTER T.B.	No	Press the confirmation key before pulling the bar after thread break detection.
5	T.B. BACK STI.	0	How many stitches to move backward automatically after thread break detect. Choice: 0 ~ 7 stitches，
6	PATCH COUNT (darning)	1	In repairing stitch (darning), how many stitches to do before the stop point. Choice: 1 ~ 10 stitches
7	ACTION AFTER PATCHING (darning)	SLOW	After repairing stitch (darning), the main shaft can be: SLOW,STOP,NO (change)
8	STI. NOT T.B. DETECT	8	Choice: 0 ~ 15stitches. It’s 8 if there is bottom thread detect. It’s 3 for no bottom thread detect.
9	AUTO ORIGIN	Yes	The frame automatically returns to the origin point after embroidery.
10	INITIALIZE SYSTEM!		Parameters must be initialized for a new machine.
11	T.B. DETECT WHEN JUMP	No	Thread break detect in case jumping stitches. It should be set according to the real needs.
12	JUMP＆TRIM	3	Choice: No trim or 1 ~ 7stitches（Trimming when the jumping stitches reach or exceed the set value.）
13	JUMP STITCH SPEED	400	Rotation speed in case jump stitches
14	LOCK STICH WHEN TRIM	Yes	Whether to lock stitch when trimming
15	LOCK NUM. AFTER TRIM	2	Choice: 0 ~ 3。
16	LENGTH OF LOCK STI	0. 6	Choice: 0.3 ~ 1.5mm。
17	START FOR SAME COLORS	Yes	“Yes”: in embroidery, automatic start in case of the same needle position in color changing order “No”: Manual start（may be used for patching）
18	STORE MANUAL-COLOR	No	Store the manual color change value into the color change order
19	SEWING EMPTY STITCH	Yes	Usually the empty stitches will be omitted by the computer. If “No”, then they won’t be omitted.
20	VALUE FOR THICK CLOTH	0	Choice: 0-3 “0” for common cloth Increase the value for thicker cloth
21	MAX. SPEED	700	Choice: 250 ~ 1000 rpm。
22	MIN. SPEED	400	Choice: 250 ~ 600 rpm
23	SHIFT LENGTH	5.0	Choice: 1 ~ 10 Speed decreases when the stitch length is larger than this.
24	TURN OFF TRIMMING	No	Yes: shut down trimming function No: turn on trimming function
25	TRIM MODE	3	Choice: 1 ~ 8 “1” is the shortest
26	ACTION AFTER TRIM	Y	Frame to X/Y, move needle

No.	Parameter	Suggested Value	Note
27	FRAME AFTER TRIM	No	Frame moving after trimming
28	CHECK TRIM IS OK	Yes	For common trimming, "Yes" for machine with sensor For collective trimming it must be "Yes".
29	ROUNDS FOR BRAKE	2	"2" for electromagnetic motor "1" for miniature machines or servo main shaft motor
30	STITCHES AFTER TRIM	2	Slow stitches when pulling bar after trimming Choice: 1 ~ 7
31	SPEED AFTER TRIM	80	Rotation speed for lock stitch
32	SPEED WHEN TRIMMING	8 0	Main shaft speed when trimming Choice: 80 ~ 250 rpm
33	HOOK ANGLE BY MOTOR	0	Choice: -100~+100 The angle increases with the set value.
34	HOOK RATIO BY MOTOR		Choice: 1:9, 1:10, 1:12, 1:15, 1:18, 1:20
35	NEEDLES	6	It must be the same with the needles in machine.
36	SET BRAKE PARA.	0 or 9	Choice: 0 ~ 30 9 for electromagnetic motor main shaft/5 ~ 7 for servo motor main shaft When the stop position is over 100°, decrease the value. When the stop position is less than 100°, increase the value.
37	MAIN MOTOR PARA.	1	Choice: 0 ~ 30 It's only for electromagnetic motor. Increase this parameter value to avoid main shaft vibration during braking. Usually it's set as 1.
38	SET RUN SPEED	80	Choice: 80、90、100、110、120、130、140、150rpm
39	STARTUP STITCHES	1	Slow stitches before acceleration in starting Choice: 1~9
40	STARTUP ACCE	12	Choice: 1 ~ 30 acceleration speed after pulling bar
41	SPEED OF SLOW EMB.	400	Shaft speed when pull bar right
42	COLOR-CHANGE SPEED	12	It's valid only when the color-change motor is stepping motor. The larger the value, the faster the color-change speed.
43	ADJUST HEAD SOLENOID	0	Choice: 0 ~ 30 Voltage of head solenoid
44	PARA. OF NEEDLE DOWN	15	Choice: 0-30 stopping angle of main shaft
45	RATIO OF AC INDUCTION	0	Choice: -15 ~ +15
46	DIP1—DIP4		For future use
50	DISPLAY STI. OR NOT	Yes	Display stitch count
51	OVERFRAME BY STEP	No	By step or continuous
52	SPEEDWHEN OVERFRAME	16	Speed of over frame
53	HIGH FRAMING SPEED	16	Choice: 1 ~ 30 speed of fast moving frame
54	LOW FRAMING SPEED	12	Choice: 1 ~ 30 speed of slow moving frame
55	STOP TO COLR	No	Transfer stop code to color-change code in reading disk files. Only for some countries/regions
56	BORING NEEDLE	No	The boring needle number "No" for no boring embroidery

No.	Parameter	Suggested Value	Note
			No thread break detect, trimming, or lock stitch for the boring needle
57	BORING EMB. DISP.(mm)	0/12	Location of boring knife: 0mm or 12mm
58	CORD EMB. NEEDLE	No	The cord embroidery needle number
59	SPEED FOR CORD EMB.	400	Speed limit for cord embroidery Choice: 300-600rpm
60	STOP OK bef. PULL BAR		Pulling bar is available only after the main shaft stops at 100 degree.
61	ADJ. STARTUP HOLDING	0	Please adjust this value in case the bottom thread cannot be taken up at the time of startup.
62	DETECT T.B. MODE	1	Choice: 1,2
63	STI. FOR FILTER T.B	3	Choice: 1-6
64	SLOW STI. AFTER PATCH		Choice: 0~9999
65	SPEED AFTER PATCH		Choice: 80-maximum speed
66	LOCK NUM. BEFORE TRIM	2	Choice:0-2
67	LOCK LEN. BEFORE TRIM	1.0mm	Choice:0.3-2.0 mm
68	LOCK SHAFT WHEN STOP	1	Choice: 0,1 0(NO),1(YES)
69	SPEED OF 1 STI PRIOR TRIM	150	Choice:60-600
70	SPEED OF 2 STI PRIOR TRIM	80	Choice:60-500
71	STARTUP FILTER EMPTY	1	Choice: 0,1 0(NO),1(YES)
72	SENSE OF UPPER T.B.	1	Choice:1-15
73	SENSE OF UNDER T.B.	1	Choice:1-15
74	ADJUST NIPPER SOLENOID	1	Choice:1-10
75	STATIC TRIM ANGLE	100	Choice:100 or 86
76	STI.LEN OF AUTO JUMP	NO	Choice:NO,3-11
77	STI. NOT T.B. AT JUMP	3	Choice:0-15
78	ADJ HEAD ACTION ANGLE	0	Choice:0-10
PARA OF SEQUIN, SPECIAL EMB, AFC.			
Sequin Parameter (J type)			
1	SEQUIN R ON/OFF	0	Choice: 0（off）, 1（low position needle, the first needle）
2	SEQUIN L ON/OFF	0	Choice: 0(off), N(high position needle, the needle N)
3	SPEED FOR SEQUIN R	350rpm	Choice: 300-600rpm the highest speed of sequin embroidery
4	SPEED FOR SEQUIN L	350rpm	Choice: 300-600rpm the highest speed of sequin embroidery
5	SEQUIN R ADJ. ANGLE		Sequin delivery angle adjustment: -15~+15。
6	SEQUIN L ADJ. ANGLE		Sequin delivery angle adjustment: -15~+30。
7	SEQUIN R TYPE		Choice: Single, double
8	SEQUIN L TYPE		Choice: single, double
9	AUTO START FOR SEQUIN	No	Auto startup or manual startup (pulling bar)
10	TIME OF SEQUIN ACTION	3	Choice: 0-15."2~3" is for air valve presser foot, and "4~5" is for stepping motor presser foot.
11	SEQUIN OFF AFTER T.B.	No	Control the sequin device position after thread break
Sequin Parameter (D type)			
1	SPEED FOR SEQUIN R	400	300,310,…,the maximum speed

No.	Parameter	Suggested Value	Note
2	SPEED FOR SEQUIN L	400	300,310,…,the maximum speed
3	SEQUIN R ADJ. ANGLE	0	-15 ~ 15
4	SEQUIN L ADJ. ANGLE	0	-15 ~ 15
5	AUTO START FOR SEQUIN	No	Yes, No
6	TIME OF SEQUIN ACTION	3	Choice: 0-15. For the presser lifted by valve, this parameter is set at 2~3, while 4~5 for the presser lifted by motor.
7	SEQUIN OFF AFTER T.B.	No	To control the position of sequin device upon the thread breakage.
8	MOTERS OF R Sequin		NO, 1 ~ 4,1(2 ~ 4). This parameter is set according to the sequin device, among which the parameter 1(2~4) means the number of sequin devices driven by one motor.
9	Set 3 MM of R Sequin	Double direction, 13	Single Direction 6 ~ 40 steps, Double direction 6 ~ 40 steps
10	Set 4 MM of R Sequin	Double direction, 13	Single Direction 6 ~ 40 steps, Double direction 6 ~ 40 steps
11	Set 5 MM of R Sequin	Double direction, 20	Single Direction 6 ~ 40 steps, Double direction 6 ~ 40 steps
12	Set 7 MM of R Sequin	Double direction, 24	Single Direction 6 ~ 40 steps, Double direction 6 ~ 40 steps
13	Set 9 MM of R Sequin	Double direction, 40	Single Direction 6 ~ 40 steps, Double direction 6 ~ 40 steps
14	A Size&Color of R Sequin	5mm Yellow	3/4/5/6.75/9mm Yellow/Purple/Blue/Green/Red/Golden/silver/ Cyan
15	B Size&Color of R Sequin	5mm Blue	3/4/5/6.75/9mm Yellow/Purple/Blue/Green/Red/Golden/silver/ Cyan
16	C Size&Color of R Sequin	5mm silver	3/4/5/6.75/9mm Yellow/Purple/Blue/Green/Red/Golden/silver/ Cyan
17	D Size&Color of R Sequin	5mm Golden	3/4/5/6.75/9mm Yellow/Purple/Blue/Green/Red/Golden/silver/ Cyan
18	Adj Set Gap of R Seq	No	No/1/2
19	Value Time of R Sequin	1	Choice:0-5
20	MOTERS OF L Sequin		NO, 1 ~ 4,1(2 ~ 4). This parameter is set according to the sequin device, among which the parameter 1(2~4) means the number of sequin devices driven by one motor.
21	Set 3 MM of L Sequin	Double direction, 13	Single Direction 6 ~ 40 steps, Double direction 6 ~ 40 steps
22	Set 4 MM of L Sequin	Double direction,	Single Direction 6 ~ 40 steps, Double direction 6 ~ 40 steps

No.	Parameter	Suggested Value	Note
		13	
23	Set 5 MM of L Sequin	Double direction, 20	Single Direction 6 ~ 40 steps, Double direction 6 ~ 40 steps
24	Set 7 MM of L Sequin	Double direction, 24	Single Direction 6 ~ 40 steps, Double direction 6 ~ 40 steps
25	Set 9 MM of L Sequin	Double direction, 40	Single Direction 6 ~ 40 steps, Double direction 6 ~ 40 steps
26	A Size&Color of L Sequin	5mm Yellow	3/4/5/6.75/9mm Yellow/Purple/Blue/Green/Red/Golden/silver/ Cyan
27	B Size&Color of L Sequin	5mm Blue	3/4/5/6.75/9mm Yellow/Purple/Blue/Green/Red/Golden/silver/ Cyan
28	C Size&Color of L Sequin	5mm silver	3/4/5/6.75/9mm Yellow/Purple/Blue/Green/Red/Golden/silver/ Cyan
29	D Size&Color of L Sequin	5mm Golden	3/4/5/6.75/9mm Yellow/Purple/Blue/Green/Red/Golden/silver/ Cyan
30	Adj Set Gap of L Seq	No	No/1/2
31	Value Time of L Sequin	1	Choice:0-5
Special Embroidery Parameter			
1	SPEC. EMB. MAX SPEED	400rpm	Choice: 300-600rpm
2	SPECIAL HEAD INTERVAL	162	Choice: 162,216,250…
3	CLAMP FOOT DISPLACE		Choice: 0-60
4	RATIO OF COIL EMB.	1 stitch /round	Choice: 1-4
5	M AXIS STOP TO ORIGIN		M axis returns to the origin point after the machine stops (by pulling bar).
6	ROD POS. OF ZIG	Left	Set the origin position of Zigzag swing rod
7	SPEC. EMB. TRIM BOT		Trimming mode: NOT TRIM,TOP & BOT,BOTTOM
8	FRAME SWING FOR ZIG		Choice: -9.9 ~ -0.2，0.2 ~ 9.9
9	M AXIS BACK TO ROTATE	Yes	When pulling bar to move backward, the M axis can keep still to avoid tangling in cord embroidery; in taping embroidery it's necessary for M axis to rotate (to avoid tape rotating by itself).
10	SPEC. EMB. MIN SPEED	250	Choice: 250-400
11	SPEC. SPEED-DOWN ANGLE	30	Choice: 1-180
12	SPEC. SPEED-DOWN RATIO	2	Choice: 1-4
13	M AXIS ORIGIN AT T.B.	Yes	M axis returns to the origin point at the time of thread break detection.
14	Z SHAFT CONTROL ANGLE	180	Timing method is taken in case angle is larger than the set value. Counting method is taken in case angle is less than the set value.
15	ADJ. CLAMP FOOT LIMIT	0	Choice: 0-250
16	MIN. HEIGHT CLAMP FOOT	0	Choice: 0-255

No.	Parameter	Suggested Value	Note
17	ADJ. ZIG ROD ANGLE	1	Choice: 1, 2, 3.
18	ROTARY GAP OF M AXIS		Choice: 0-10
19	M AXIS OFF-WORK ANGLE		In case of normal and sequin embroidery, the M axis stops at the angle of the set value. When the distance between the normal embroidery head and special embroidery head is small, this parameter must be set as 90° to avoid bumping.
20	MAX OF ZIG Swing ANGLE	90	Choice:0-90
21	ADJ.ZIG SWING ANGLE	0	Choice:0-5
22	SPEC. EMB. JUMP&TRIM	3 stitch	Choice: not trim or 1 stitch -7 stitch
23	TURN OFF ROD FOR ZIG5	No	Choice: No, Yes
24	COILING EMB. MODE	Normal	Choice: Normal, Track
AFC Parameter			
1	AUTO Frame Changer (AFC)	No	Choose “Yes” for automatic frame changer (AFC)
2	AFC Interval Time	3	Choice: 0-15 Interval time between (AFC) valve actions
3	X GAP FOR QUILT	0	Range: 0~10, for adjustment of compensation in mechanical interval
4	Y GAP FOR QUILT	0	Range: 0~10, for adjustment of compensation in mechanical interval
A-LOOPING Parameter			
1	DO A-LOOPING EMB.:	Yes	Yes, No
2	A-LOOPING MODE:	03	Adjustable Range: 1 ~ 7. Larger parameter means wider swing.
A-ZIG Parameter			
1	A-ZIG EMB. R ON/OFF	OFF	The 1st stitch is the needle position of simple taping.
2	A-ZIG EMB. L ON/OFF	OFF	The Last stitch is the needle position of simple taping.
3	A-ZIG EMB. ON/OFF TIME	2	Range: 0 ~ 5. The value is set according to the actual motion time of simple taping device.
4	A-ZIG SWING ANGLE	100	Range: 0 ~ 100. The value is the coordinate angle of the simple taping run by the wheel.
5	A-ZIG MAX SPEED	600	Range: Lowest Speed ~ Top Speed. The top speed is 1000rpm, but it still needs depend on the actual capacity of machine.
6	A-ZIG 5 SWING ANGLE:	+0.0	Range: ± 0.2~9.9mm. It could compensate the embroidery range with the adjustment of the frame.
7	A-ZIG HAS LOOSING-MOTO	Y	If it is the simple cording device with double motors, this parameter shall be set as “Yes”, otherwise, please set it as “No”.
8	LOOSING-MOTOR PARAM	5	Range: 0~15. Adjust the thread delivering speed of the entire thread-loosening motor.
9	A-ZIG RIGHT ORIGIN POS:	0	Range: 0~100. Setting value of angle between the threading point and the forward direction of the mechanical origin of the 1st stitch simple taping device.
10	A-ZIG LEFT ORIGIN POS	0	Range: 0~100. Setting value of angle between the threading point and the forward direction of the

No.	Parameter	Suggested Value	Note
			mechanical origin of the last stitch simple taping device.
11	A-ZIG DETECT UP/DOWN	Y	Detect whether the lifting device is at position. This parameter shall be set according to the actual condition of the device.
Adjust Params of Servo Driver			
1	X Emb. Param	300	Choice: 93-650
2	X Frame Param 1	260	Choice: 93-650
3	X Frame Param 2	13	Choice: 6-50
4	X Param 1-11	30	Choice: 10-50
5	X Gear Backlash	20	Choice: 0-50
6	X CMR	50	Choice: 0-100
7	X CMD	1	Choice: 0-255
8	Inquire Servo Drivers Status	Normal or Wrong	Check and display the working statutes of servo driver.
9	Write Servo Driver Params	No	Save the parameter at interface of operation head into driver so as to prevent the Params from losing at power-off
10	Restore Default Driver Params	No	Restore the parameter to the default values.
11	Y Emb. Param	300	Choice: 93-650
12	Y Frame Param 1	260	Choice: 93-650
13	Y Frame Param 2	13	Choice: 6-50
14	Y Param 1-11	30	Choice: 10-50
15	X Gear Backlash	20	Choice: 0-50
16	X CMR	50	Choice: 0-100
17	X CMD	1	Choice: 0-255
18	Adj All X Params	+0	X parameters, 1-11 Integral adjustment.
19	Adj All Y Params	+0	Y Parameters,1-11 Integral adjustment.

Chapter 32 D Type Sequin Embroidery

32-1 Brief introduction on sequin embroidery

Sequin embroidery is composed of sequins and threads. We choose those hard materials with smooth surfaces as the sequins. Embroidery works will be shining with these sequins attached. Design with Sequin codes has its own way of designing.

D type multi-sequin embroidery of BECS-2X6 machine is divided into two groups: one is normal multi-sequin design, made by normal design making method. The other one is special multi-sequin design made by normal design software with special making method attached.

For normal one, you should set sequin mode when you modify the color-changing order. Special multi-sequin design can be directly embroidered after modification of color-changing order.

If users want to adjust sequin, they can make change by using “sequin edit”. After changing, the multi-sequin design will be special multi-sequin design.

Note: see《AppendixⅢ: Making of Special Multi-Sequin Design》for detailed design making rules.

A. Applied Scope:

This system applies to sequin embroidering control system which combines normal embroidering mechanism and sequin sending mechanism.

B. Features and Functions:

1. Two sending sequin modes: Roller and Lever;

Roller: the core part is a wheel-like device in the whole mechanism. Its operating principle is to wheel continuous towards one direction to send sequins into position.

Lever: the core part is staff linkage. Its operating principle is to move back-and-forth to send the sequins into position.

2. Sequin mending and sequin sending mechanism are two independent actions
3. Delivering a sequin by operating either manual separated head or centralized
4. Display working status separated head
5. Type of sequin sending and angle can be changed by operating on the control panel.

C. Specifications

1. Sequin diameter range: 3mm,4mm,5mm,6.75mm and 9mm;
2. The maximum speed for sequin embroidery is 850 rpm.

D. A/B/C/D means four delivering sequin equipment in underside depiction. If all four sequins

are delivered, A will be on the top, then B, C and D.

32-2 Embroider Sequin

Sequin embroidering should follow the steps as below:

1、Input design with sequin code, see related chapters of BECS-2X6 user manual for details;

2、Users can edit or adjust designs if needed;

3、Set sequin embroidery parameters according to the following instructions;

4、Check the sequin delivery devices, make adjustment if necessary. Make sure that they are under good working condition;

5、Set color-changing order;

6、Back to the main screen, embroidery confirm;

7、Pull bar to embroider.

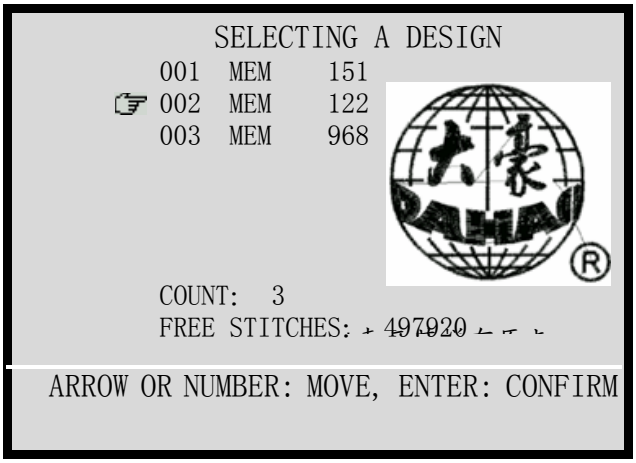
Note: during the embroidery process, do not touch manual valve up/down switch, or it may lead to damage of sequin device.

32-3 Sequin Design Editing

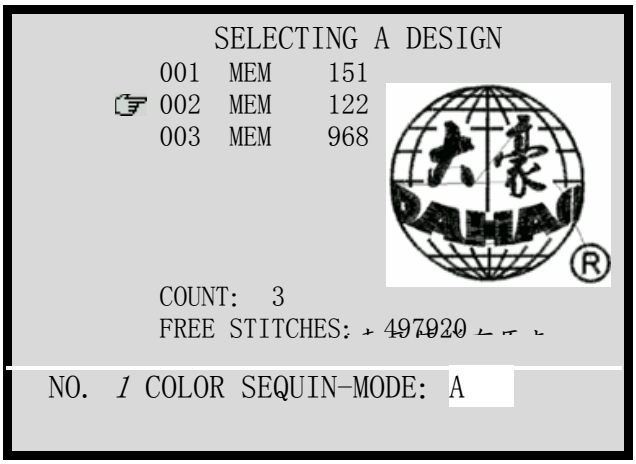
This function can edit every sequin design in the memory. Design will become special sequin design after editing, they will not require setting sequin mode when adjust color-changing order.

1、Press “ ” to come to other management screen:

2、Press "" and "" to turn to page4, press "" and "" to move the cursor to "EDIT SEQUIN DESIGN", then press "" to enter into memory design list.



3、Press "" and "" to move the cursor to sequin design, then press "" to enter into sequin mode setting.



a) Press "⇧" and "⇩" to select sequin mode, press "↵" to confirm. A/B/C/D each indicates a sequin delivery device on one machine head. If four sequins being delivered at same time, the one on top will be sequin A, then B, C and D.

Note: "Edit sequin design "must be done before setting "Motor Number of R (L) Sequin" of the parameters because the choice of Sequin-mode are different from "Motor Number of R (L) Sequin". For example, if the maximum of "Motor Number of R (L) Sequin" is "3" ,the selection of Sequin-mode are combination of A、B and C.

b) Press "↵" to confirm the sequin delivery mode, then users have to type in delivery count. Press digital keys for desired sequin delivery （ranging from 1 to 9999）（if sequin under the color uses only one mode, then type in "1" and end next step）. Press "↵" to confirm action.

c) If multi sequin modes being required, repeat the above two steps. Otherwise, press "⇧" and "⇩" till you see END or 0 in "INPUT SEQUIN MODE", press "↵" to save setting.

4、Continue to setting sequin mode of next color. When you complete all the settings, system will return to Other Management screen.

5、After sequin editing, all the edited sequin designs (no matter normal or special) will become special sequin designs.

32-4 Parameter Setting of Multi-sequin Embroidery

In this section, we will look into adjustment of sequin device and parameter setting of multi-sequin embroidery.

Press "" key to enter into Other Management screen. Press "" and "" to move the cursor to "PARA OF SEQUIN,SPECIAL EMB,AFC", press "" to enter into parameter setting screen. The process of sequin parameter setting is similar to setting other parameters (see related machine user manuals for details).

The following are specified parameter instructions, followed by their ranges.

(1) Speed for Sequin R(L): (300,310,…,the maximum speed)

The speed depends on the sequin size. However, sewing the same sequin with different mechanical structure, the acting angle could be different, which is directly related to the maximum speed.

Note: the maximum speed of flat embroidery should be higher or equal to speed for sequin embroidery.

(2) Sequin L(R) Adj. Angle (from -15 to 15)

It is used for jiggle adjusting sequin delivery angle.

(3) Auto start for sequin(No, Yes)

When the setting is "Yes", system will start embroidering sequin automatically.

When the setting is "No", machine needs manually start.

(4) Time of Sequin Action(0~15)

This is to set the time period from sequin device goes down to embroidering (0-15, the default value is 2). If the sequin device is controlled by valve, use the default value; if it is controlled by motor, choose 4-5.

(5) Sequin off after T.B.(No, Yes)

When the setting is "Yes", sequin presser foot will be lift up automatically in case of thread break. When the setting is "No", the sequin device needs manually lifting the presser foot.

(6) Up Valve When Jump & Nocut(No, Yes)

(7) Motor Number of R (L) Sequin(NO, 1~4,1(2~4))

Tihis parameter is set by mechanism . If there is no sequin device, then you should set to "0".

(8) Set 3/4/5/6.75/9mm of R(L) Sequin(Lever 6~40 Degree, Roller 6~40)

This is to set sequin delivery angle. If it is roller, it should be set to single way; if it is lever, it should be set to double way. The parameter is closely related to "left/right sequin device A/B/C/D size and color". For example, "A size & color of R sequin" is set to "4mm X color", then the angle value should be "Set 4MM of R Sequin".

(9) A/B/C/D size & color of R/L sequin

(3/4/5/6.75/9mmRed/Green/Blue/Purple/Yellow/Cyan/silver/Golden)

Setting of this parameter depends on the mechanical structure. The order from A to D is from front to back. Move the cursor to this parameter and press to enter.

Note: "Motor Number of R (L) Sequin" is closely related to "A/B/C/D size & color of R/L sequin". For example, if "Motor Number of R (L) Sequin" is set to 2, then it only displays "A/B size & color of R/L sequin".

(10) Sequin Gap Num of R(L) Sequin(No, 1,2)

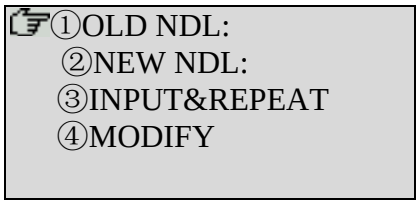
This is to set gap number. If there is no gap, then it should be set to 0.

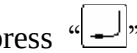
(11) Valve Time of Right Sequin(0~5)

32-5 Setting sequin mode when adjusting color-changing order

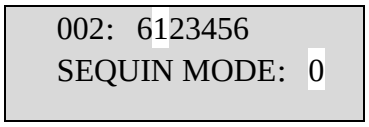
For normal multi-sequin design, users need to set sequin mode when they change the color-changing order; for special multi-sequin design, users can change color-changing order directly. The detailed operations are as follow:

1、Press " ", system will show this screen:



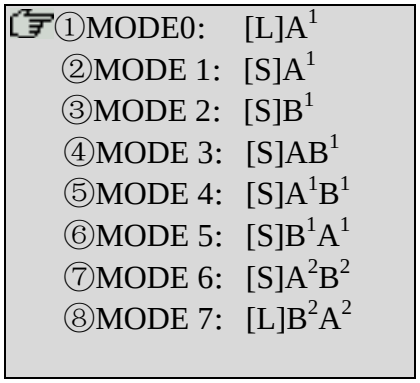
2、Put the cursor to ①, then press "  ". Press digital keys（Note: make sure that the digit is within the total needle count） input color-changing position one by one, needle position and its order are displayed on the screen. If first needle/last needle is multi-sequin device, while last needle is multi-sequin device, then when you press the first needle/last needle number, system will ask to select a sequin mode（for special multi-sequin design, no need to set sequin delivery mode）.

For example, if the last needle is 6, then after pressing 6, system will display:



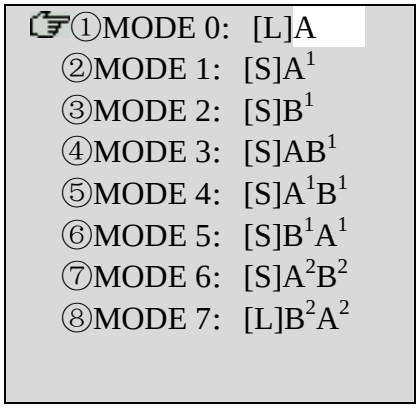
3、Press "⇩" or "⇧" to select a set sequin mode. Press "↵" , system will ask to input next color-changing position. Type in proper number and needle position, then press "▦" or "↵" .

4、Move the cursor to ④, press "↵" to set sequin mode. Screen will display the following image:



Setting sequin delivery mode:

a) Press "↵" , then system asks to use "⇩" or "⇧" to select big sequin or small sequin （sequin type）. Press "↵" to let system show the following image:



b) Press "⇩" or "⇧" to change sequin delivery mode. Press "↵" to confirm. A indicates front motor delivering, B indicates middle motor delivering, C indicates rear

motor delivering, AC indicates front & rear motor overlap sequin delivering, AB indicates front & middle motor overlap sequin delivering, BC indicates middle & rear motor overlap sequin delivering, while ABC indicates front, middle and rear motor overlap sequin delivering.

Note: if there are only two motors, motor B is the rear motor.

c) Press "↵" to confirm sequin delivery mode, after which system will require a sequin delivering count. Input a number for desired sequin delivering count then press "↵".

d) Repeat the above two steps, then press "⇩" or "⇧" till END appears. Press "↵" to complete setting "SEQUIN MODE 0"。Other sequin mode settings should follow the same steps.

32-6 Manual Operate Sequin Embroidery

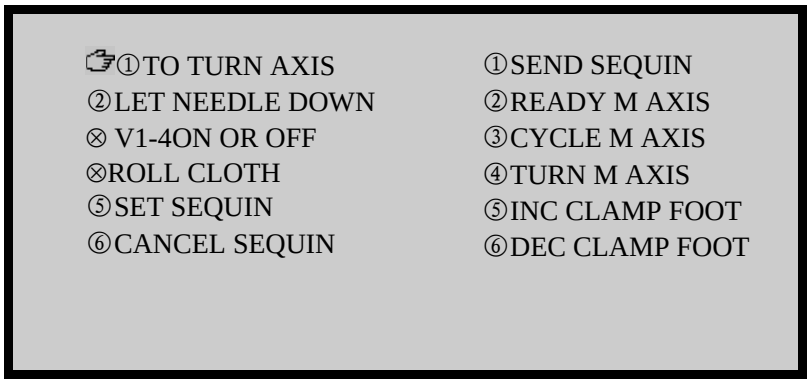
Manual operate are divided into collective manual operation and separate manual operation.

1、Collective manual operation**:**

The function is only applicable to machines with sequin function, namely "SEQUIN START", "SEQUIN FINISH" and "SEND SEQUIN".

When the needle position is at sequin position, the manual operations are as follow:

1. Press "⊙", system shows the following image:



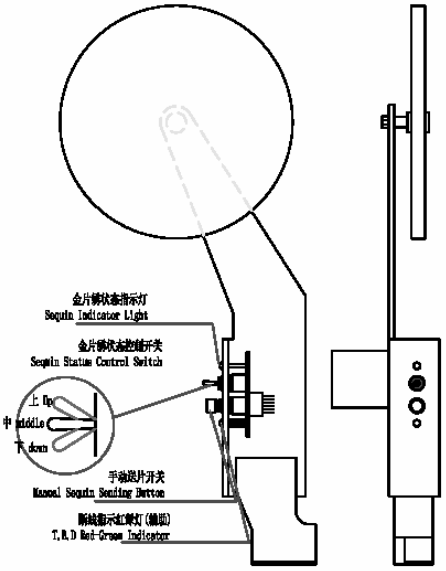
2. Press "⇩" to move the cursor to "SET SEQUIN". Press "↵" to let all the clamp feet down. System stands by for sequin delivery.

3. Press "⇩" to move the cursor to "CANCEL SEQUIN". Press "↵" to let all the clamp feet up. System ends sequin delivery.
4. Press "⇩" and "⇨" to move the cursor to "SEND SEQUIN". Press "↵" once to let the sequin devices (clamp foot down) send out a sequin.

2、Manual operating rules are:

- The thread break detect switch is embroidery switch. When it is switched to the down side, flat and sequin embroideries are not available;
- The thread break detect lights are on the sequin delivery devices, which will be easy for operators to watch machine head status.

Note: when the valve switch is set to the middle and blue light is on, the machine head is under normal embroidery status.



Location of the sequin switch board

32-7 Debugging multi-sequin embroidery

1. deliver A sequin of front motor action

Shift the switch to the lower side, thread break detect switch turns green, press manual sequin delivery button.

2. deliver B sequin of middle motor action

Shift the switch to the lower side, thread break detect switch turns red, press manual sequin delivery button.

3. deliver C sequin of rear motor action

Shift the switch to the lower side, thread break detect switch turns to the lower side too, press manual sequin delivery button.

32-8 Sequin mending

After thread break or manually turning on the red lamp, pull bar and the machine state is in sequin mending. All the sequin devices will lift up; machine stops when it backs to the stop embroidering point. Pull bar again to let the sequin device (on mending head) down for mending. When it reaches the stop point, machine stops, then other sequin devices will be down to continue normal embroidery. “Patch count” in machine parameter setting is ineffective in sequin mending..

Chapter 33 Management of Coiling, Taping and Zigzag Embroidery

33-1 Function Introduction

1. Coiling function: This is a method to wind coiling thread(s) at an equal interval around a core thread in a form of coil. Left Coiling (clockwise) and Right Coiling (counterclockwise) are both available in coiling function, which could be opted in computer parameters.

2. Taping function: Tape can be used as embroidery material. It includes taping 1and taping 2 (blind embroidery)

3. Zigzag function: Zigzag sewing lever swings to the right or left per stitch in regard to the direction of original stitches. The upper thread forms zigzag on the embroidered material. There are six special stitches: Z1, Z2, Z3, Z4, Z5 and Z6. Their stitches are as follows.

Z1 Z2 Z3 Z4 Z5 Z6

For convenience, Coiling, Taping and Zigzag-sewing are all called special embroidery in the following.

4. Standard embroidery head and special embroidery head can be switched automatically or manually.

5. Coiling, Taping and Zigzag functions can be switched at will.

6. The nipple of Special embroidery can be raised and lowered automatically or manually. (Only for the machines installed with relevant apparatus)

7. The highest speeds of Standard embroidery head and special embroidery head can be set up respectively.

8. Auto saving of the stop-embroidery point of the M axis: The embroidery work can continue from the stop-embroidery point when the power recovers.

9. The trimming function of the special embroidery head (no trimming\trimming of the bottom thread\trimming of both the upper and bottom threads)

10. The nipple of Special embroidery can be raised and lowered automatically before manual frame shifting or embroidering.

11. Zigzag sewing lever can be tested manually.

33-2 Main Technique Indexes

1. The sequence of needle positions on Standard embroidery head and special

embroidery head: This control system default that the first one is special embroidery needle position and Standard embroidery's are from second to end.

2. Speed range of Special Embroidery: 300—600rpm, minimum of stepping precision is 10r.

3. Angle of M-axis rotated manually: 18° /step.

33-3 Manual Operation of the Special Embroidery head, and the Embroidery Parameters Settings (Attention: the M axis can only be operated with the first needle position.)

1. M-axis: M-axis can drive the bobbin of the Special Embroidery hand. M-axis make the bobbin trace the stitch when embroidering.

(1) Return the M-axis to the Working Point: Press "M.ORG" key, according to the computer's prompt press the digital keys or press "⇧" / "⇩" to move the cursor to the option "turn M-axis to Working Point", and then press " " key to confirm. In this way, the M-axis will return to the working point.

(2) Return the M-axis to the Origin Point: Press "M.ORG" key, according to the computer's prompt press the digital keys or press "⇧" 、 "⇩" to move the cursor to the option "turn M-axis to Origin Point", and then press " " key to confirm. In this way, the M-axis will return to origin point.

(3) M-axis rotated manually: Press "M.ORG" key, complied with computer's prompt , press the digital keys or press "⇧" / "⇩" to move the cursor to option "M-axis rotated manually", press " " key to confirm. Complied with computer's prompt, press "⇦" 、 "⇨" key to rotated bobbin to the desired position step by step.

2. Make the nipple of special embroidery head up and down manually.

(1) Make the nipple of special embroidery head up: Press "M.ORG" key, complied with computer's prompt , press digital key or press "⇧" 、 "⇩" to move the cursor to the option "Make the nipple of special embroidery hand up", press " " key twice to confirm. In this way the machine will make all nipple up automatically。

(2) Make the nipple of special embroidery head down: Press "M.ORG" key, complied with computer's prompt ,press digital key or press "⇧" 、 "⇩" to move the cursor to the option "Make the nipple of special embroidery hand down", press " " key twice to confirm. In this way the machine will make all nipple down automatically。

3. Switch from Standard Embroidery head to Special Embroidery head

(1) Manual Switch: Press digital number"1", complied with computer's prompt, press digital number "1" or press "⇧" 、 "⇩" key to move the cursor to①, select the first option "the first needle position for Special Embroidery", press " " key to confirm. In this way the machine will switch the needle position to Special Embroidery hand, at the same time move the point where the needle down to special's.

(2) Auto Switch: When setting color-change sequence before embroidery, set the needle number to"1"at color-change units between flat embroidery hand and special embroidery hand. In this way the machine will switch the needle position automatically while embroidering. The machine will stop to wait for the operation on embroidery material after it switches to the first needle (special embroidery hand) automatically. Pull bar to continue embroidery after finishing the operation.

4. Switch from Special Embroidery head to Standard Embroidery head

(1) Manual Switch: Press the digital key whose number is the same as the wanted needle position's number, then finish manual switch. In this way the machine will switch to the selected needle position for flat embroidery hand, at the same time move the point where the needle down to.

(2) Auto Switch: Choose the needle number to setting the color-change sequence before embroidery, and then the machine could switch automatically in embroidery. When the embroidery finishes, the machine will stop automatically at the Stop Code, and prompts "embroidery paused, pull bar to continue", waiting for operation on embroidery material. After the operation finish, pull bar to continue. Then machine will switch to Flat Embroidery hand automatically and continue working.

5. Switch among Coiling, Taping and Zigzag-swing Stitching

(1) Coiling Stitching Function:

a) Press digital key “1”, complied with computer’s prompt, press digital key press “⇧” 、 “⇩” key to move the cursor to the option “the first needle position and do left coiling stitching”, press “ ” key to confirm, then the icon “ ” will appears at the main picture.

b) Press digital key “1”, complied with computer’s prompt, press digital key or press “⇧” 、 “⇩” key to move the cursor to the option “the first needle position and do right coiling stitching”, press “ ” key to confirm, then the icon “ ” will appears at the main picture.

To get better effect, select the coiling direction according to the coiling direction of core thread. After finishing setting, the machine will do coiling stitching matched with the special nipple and bobbin.

(2) Taping Stitching Function: Press digital key “1”, complied with computer’s prompt, press digital key or press “⇧” 、 “⇩” key to move the cursor to the option “the first needle and do taping stitching 1”or“the first needle and do taping stitching 2” , press “ ” key to confirm, then the icon “ 1” or “ 2” will appears at the main picture. After you finish setting the function, the machine will do taping stitching 1 or taping stitching 2(blind embroidery) matched with the special nipple and bobbin.

(3) Zigzag sewing Function

a) Z1 Stitching Function: Press digital key“1”, complied with computer’s prompt, press digital key or press “⇧” 、 “⇩” key to move the cursor to the option “the first needle” and “Z1”, press “ ” key to confirm, then the icon “ ” will appears at the main picture. Its feature is that the lever swings once every two stitches.

b) Z2 Stitching Function: Press digital key“1”, complied with computer’s prompt, press digital key or press “⇧” 、 “⇩” key to move the cursor to the option “the first needle” and “ Z2”, press “ ” key to confirm, then the icon “ ” will appears at the main picture. Its feature is that one lever swing every stitch and one lever every two stitches take place alternately.

c) Z3 Stitching Function: Press digital key“1”, complied with computer’s prompt, press digital key or press “⇧” 、 “⇩” key to move the cursor to the option “the first needle” and “Z3”, press “ ” key to confirm, then the icon “ ” will appears at the main picture. Its feature is one lever swing every stitch.

d) Z4 Stitching Function: Press digital key“1”, complied with computer’s prompt, press digital keys or press “⇧” 、 “⇩” key to move the cursor to the option “the first needle” and “Z4”, press “ ” key to confirm, then the icon “ ” will appears at the main picture. Its feature is one lever swing every stitch and its lever swing direction is opposite to the one of Z3.

e) Z5 Stitching Function: Press digital key“1”, complied with computer’s prompt, press digital key or press “⇧” 、 “⇩” key to move the cursor to the option “the first needle” and “Z5”, press “ ” key to confirm, then the icon “ ” will appears at the main picture. Its feature is the same as Z4 and it’s desirable for the embroidering of thick cords. (Refer to the parameter: the swinging scope of the embroidery frame in zigzag sewing)

f) Z6 Stitching Function: Press digital key“1”, complied with computer’s prompt, press digital key or press “⇧” 、 “⇩” key to move the cursor to the option “the first needle” and “Z6”, press “ ” key to confirm, then the icon “ ” will appears at the main picture. Its feature is three stitches at the same point and one lever swing every stitch.

6. Settings of the Embroidery Parameters

(1) “SPEC, EMB. MAX SPEED” Setting the highest speed of Special Embroidery: Press assistant mode “” key, press digital key "7", press “PU” or “PD” key to turn to other pages. Complied with computer’s prompt, press digital key or press “⇧” 、 “⇩” to move the cursor to the option “SPEC, EMB. MAX SPEED”, press “ ” to enter, press “⇧” 、 “⇩” key to adjust the number to desired. Press “ ” key to finish setting.

(2) “SPECIAL HEAD INTERVAL”: (150，162，166，175，185，200，216，225，230，240，250，260，270，275，280，290，300，400，455); operation ditto.

(3) “CLAMP FOOT DISPLACE” Adjusting the working position of clamp foot: “0--60”; operation ditto. The height is for every stitch.

(4) “RATIO OF COIL. EMB.” The ratio of coiling: “1--4” ; operation ditto. The parameter can change the coiling density; e.g. the set value 2 means one coiling every two stitches.

(5) “M AXIS STOP TO ORIGIN” The M axis returns to the origin point after the machine stops by pulling the bar: “Y/N”; operation ditto.

(6) “ROD POS. OF ZIG” The rod position of zigzag embroidering: LEFT/RIGHT; operation ditto.

(7) “SPEC. EMB. TRIM BOT.” Whether to trim the bottom thread by the special embroidery head: “BOTTOM/NOT TRIM/TOP&BOT.”: operation ditto.

(8) “FRAME SWING FOR ZIG” The swinging scope of the embroidery frame in zigzag sewing: -9.9 ~ -0.2，0.2 ~ 9.9; operation ditto. The parameter is for Z5 stitching function and applies to thick cords. For a thick cord, the Z5 embroidering is to move the frame to add to the swinging scope of the lever. The parameter’s absolute value is set according to the cord width. And the “+/-” is decided by the machine structure. The moving directions of the lever and frame should be the same. Otherwise please change the “+/-” setting.

(9) “M AXIS BACK TO ROTATE”: Whether the M axis is to rotate when the machine returns by pulling the bar: Y/N; operation ditto.

(10) “SPEC. EMB. MIN. SPEED” The lowest rotating speed of special embroidering: 250-400; operation ditto. The parameter value is the lowest speed that the M axis can be decelerated to.

(11) “SPEC. SPEED-DOWN ANGLE” :0—180; operation ditto. When the M axis rotating angle is larger than the set value, the main axis begins to decelerate. The recommended value is 30.

(12) “SPEC. SPEED-DOWN RATIO”: 1—4 operation ditto. The parameter is to set the decelerating speed of the M axis. The larger the value, the faster the M axis decelerates.

(13) “M AXIS ORIGIN AT T. B.”: Y/N; operation ditto. The M axis returns to the origin point when the thread breaks.

(14) “Z SHAFT CONTROL ANGLE”：（0-180）; operation ditto. When the rotating angle is larger than the set value, the Z axis will wing faster.

(15) “ADJ. CLAMP FOOT LIMIT”：（0-250）; operation ditto. The set value is added to the

limit height of the clamp foot.

(16) “MIN. HEIGHT CLAMP FOOT”(0-255)

(17) “ADJ. ZIG ROD ANGLE” The starting angle of the rod: (1、2、3) ; operation ditto.

(18) ”ROTARY GAP OF M AXIS”(0-10): The M axis of special embroidery head has mill clearance. So without compensation, the needle will not fall in the right position. Adjust this parameter value to ensure that the needle falls in the center of tape.

(19) “M AXIS WORK-OFF ANGLE”(0°,90°): In case of normal and sequin embroidery, the M axis stops at the angle of the set value. When the distance between the normal embroidery head and special embroidery head is small, this parameter must be set as 90° to avoid bumping.

(20) “MAX OF ZIG Swing ANGLE” （0-90）

(21) “ADJ.ZIG SWING ANGLE”（0-5）Operation ditto.

(22) “SPEC. EMB. JUMP&TRIM” (not trim or 1 stitch -7 stitch)

(23) “TURN OFF ROD FOR ZIG5” (NO, YES)

(24) “COILING EMB. MODE” (Normal, Track)

33-4 Mechanical Category and Driving Mode Choice of Special Embroidery Machines

Taping machines have three moving parts in the sense of mechanics. We define them as M axis, E axis and clamp foot axis. M axis rotates a certain degrees every stitch to trace the stitch, which ensures cords or tapes always in front of needle movement. E axis swings once every one or two stitch to make the zigzag embroidery. Clamp foot axis is for lifting and lowering the clamp foot.

1. M axis

The mechanism of M axis can be divided to two types. One is with clutch device, whose action is controlled by electro pneumatic valve or by hand. Its advantage is that only the M axis of the mending embroidery is moving and non-mending embroidery heads are still when mending. This will help raise the quality and efficiency of mending. The other type is without clutch device. Both of the two types are driven by servomotor and the origin of the M axis is positioned by proximity switch.

2. E axis

According to the difference in motor and whether to use the proximity switch for positioning, E axis can be divided to the following types:

1) Stepping motor, driving heads separately, without proximity switch for positioning

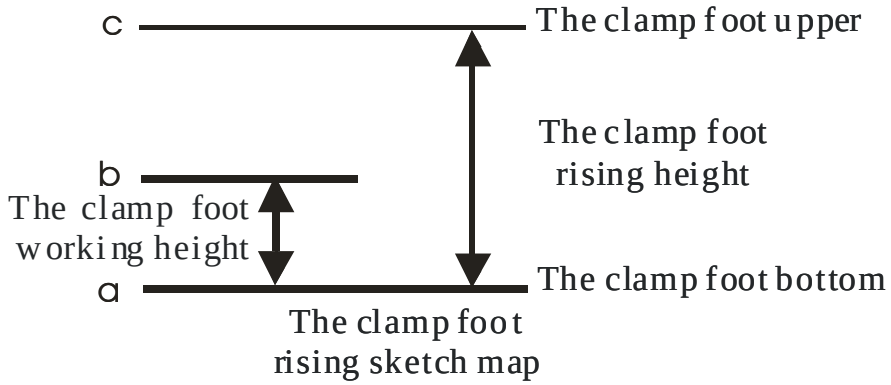
2) Stepping motor, driving heads by one motor, with proximity switch for positioning

3) Stepping motor, driving heads by one motor, without proximity switch for positioning

4) Servomotor driving, with proximity switch for positioning

3. Clamp foot axis

The working diagram of the clamp foot: (The clamp foot working height is the interval of the foot's movement with every stitch. The clamp foot rising height is the foot's moving distance from the bottom to the upper point in non-embroidery mode. And it's also called the clamp foot limited height.)



The clamp foot rising sketch map

According to the difference in motor and whether to use the proximity switch for positioning, the clamp foot axis can be divided to the following types:

(1) Raising the clamp foot by hand

In this mode, the clamp foot working height relies on the rotating of the cam and the clamp foot is raised to the limited height by hand.

(2) 2-phase stepping motor, separately driving the embroidery heads, without the holding force and proximity switch

It uses a 2-phase stepping motor for driving every special embroidery head and controlling its working height and limited height. The power is off and there is no the holding force when the clamp foot stays at the upper point or bottom point. No proximity switch is taken for positioning. And the controller by default takes that the foot is at the bottom position when turning on the machine.

(3) 2-phase stepping motor, separately driving the embroidery heads, with the holding force and without proximity switch

It uses a 2-phase stepping motor for driving every special embroidery head and

controlling its working height and limited height. The power is on and there is the holding force when the clamp foot stays at the upper point, but not at the bottom point. No proximity switch is taken for positioning. And the controller by default takes that the foot is at the bottom position when turning on the machine.

(4) Mono-phase AC motor, driving the embroidery heads by one motor, 2 proximity switches

In this mode, the clamp foot working height relies on the rotating of the cam and the clamp foot is raised to the limited height by one mono-phase AC motor driving the clamp axis. Both the upper and bottom points are set with a proximity switch to adjust the clamp foot rising height. Neither the upper nor bottom point has the holding force.

(5) (2-phase or 3-phase) stepping motor, driving the embroidery heads by one motor, 1 proximity switch

In this mode, the clamp foot working height relies on the rotating of the cam and the clamp foot is raised to the limited height by stepping motor driving the clamp axis. The upper point is set with a proximity switch to position. The bottom point is set by parameters. Both the upper and bottom points have the holding force.

(6) Pneumatic motor, separately driving the embroidery heads, without proximity switch

In this mode, the clamp foot working height relies on the rotating of the cam and the clamp foot is raised to the limited height by pneumatic motor driving the heads separately.

Appendix Ⅰ: Rules for Using USB Disk

No.	Operation	Specifications	Notes
1	USB R/W	Similar to floppy disk	
2	PRIORITY BETWEEN USB AND FLOPPY DISK	USB	
3	SUPPORTED FORMAT	FAT & FAT32	
4	SUPPORT LONG FILENAME OR NOT	Support, but do not display.	
5	FILENAME DISPLAY	DOS 8.3（8 characters for filename and 3 characters for suffix.）	e.g. “ILOVEMAMA.DST” will be displayed as “ILOVEM~1.DST”
6	DISPLAY FILENAMES IN CHINESE	Support	
7	SUPPORT DIR OR NOT	Support	
8	LEVEL LIMIT FOR DIR	No limit	
9	FILES IN ONE DIR	1000	
10	USB R/W ERROR, OR CHANGE USB DISK	Return to “DISK MANAGEMENT” or “DESIGN MANAGEMENT”, then reinsert USB disk.	
11	ENTER INTO A DIR	Select the subdirectory, then press “ ” or “ ”.	
12	RETURN TO THE PREVIOUS DIR	Select “.. (DIR)”, then press “ ” or “ ”	
13	OPERATING LOGICAL DRIVES IN ONE USB DISK	Not available, it can only operate the first logical.	
14	FORMAT USB DISK	Not available now.	
15	INSTALL CHAR LIB FROM USB DISK	Support	
16	SOFTWARE FOR UPGRADING USB DISK	Support	
17	SPECIAL CHARACTERS	Support, except for “$”.	

Appendix Ⅱ： All Functions in Different Modes

	Phases / Functions	Press Key Instantly	Preparing Mode	Confirm Mode	Running Mode
1	Begin embroidering by pulling bar			✓	4(80 revolutions)
2	Stop embroidering by pulling bar			✓（return）	✓
3	See often-used parameters		✓	✓	
4	Set normal embroidery and idling		✓	✓	
5	Set automatic color changing and beginning		✓	✓	
6	Set design direction		✓		
7	Set the sequence of automatic color changing		✓	✓	
8	See the options help		✓	✓	
9	Normal or reverse display of status line		✓	✓	
10	Frame returning to the origin point		✓	✓	
11	Frame returning to stop-embroidery point			✓	
12	Manual thread trimming		✓	✓	
13	Set main shaft acceleration speed		✓	✓	✓
14	Set main shaft deceleration speed		✓	✓	✓
15	Manual color-change (needle-change)		✓	✓	
16	Turn the main shaft at 100 degree		✓	✓	

	manually				
17	Clear stitch count and frame displacement		✓	✓	
18	Manual frame shifting		✓	✓	
19	Set the speed of manual frame shifting		✓	✓	
20	Set the embroidery confirmation		✓		
21	Release embroidery confirmation			✓	
22	Disk directory **(22-30 DISK MANAGEMENT)		✓		
23	INPUT Input design from disk to memory		✓		
24	OUTPUT (DSB) Output designs from memory to disk		✓		
25	DEL FILE Deleting disk files		✓		
26	FORMAT 720K Formatting a 720KB disk		✓		
27	FORMAT 1.44M Formatting a 1.44MB disk		✓		
28	INSTALL LETTER LIBS Installing the letter library		✓		
29	DELETE LETTER LIBS Deleting the letter library		✓		
30	DESIGN A LETTER DESIGN		✓		
31	SELECT DESIGN FOR EMB. **(31-40 DESIGN MANAGEMENT)		✓		

32	SHOW MEMORY DESIGN		✓		
33	DISK INPUT Input a design into memory from floppy disk		✓		
34	COPY Copy the designs in memory		✓		
35	EDIT Edit the designs in memory		✓		
36	DELETE Delete the designs in memory		✓		
37	DIVIDE Divide the design in memory		✓		
38	COMBINE Combine the designs in memory		✓		
39	PACKED DESIGN Edit the packed design		✓		
40	CLEAR ALL Clear all designs in memory		✓		
41	SET DESIGN PARAS (parameters) **(41-56 OTHER MANAGEMENT)		✓		
42	FRAME TO POINT			✓	
43	DESIGN RANGE'S OPERATIONS			✓	
44	OFFSET			✓	
45	SET POWER RESUME			✓	
46	POWER RESUME			✓	
47	SET MACHINE PARAS		✓	✓	

48	COMPENSATION		✓		
49	DHINESE/ENGLISH		✓	✓	
50	TO SET CYCLE EMB. ON/OFF		✓	✓	
51	HI-SPEED DESIGN		✓	✓	
52	COMPILE PACKED DESIGN		✓	✓	
53	COMPILE EMBROIDER. DESIGN		✓	✓	
54	FRAME TO MAME DESIGN		✓	✓	
55	ADD PATCH CODE TO DESIGN		✓		
56	ADJUST BRAKE		✓	✓	

AppendixⅢ： Making of Special Multi-Sequin Design

1、 Dahao special multi-sequin design

The normal design making system identify a sequin code as a jump stitch, but it can not distinguish sequin combinations from one stitch position. For instance, it can not recognize it's a sequin A or B at one stitch position. Dahao special multi-sequin design making is to add a few jump stitch codes after the original sequin code（jump stitch or stitch length is less than 0.1mm）to indicate sequin combination. Thus achieve embroidering overlap sequin on one stitch position. For instance, "A+C" means overlap sequin of A and C.

Rule is as follows:

The value of sequin A is 1，we use 1 sequin code.

The value of sequin B is 2，we use 1 sequin code plus 1 jump stitch.

The value of sequin A+B is 3，we use 1 sequin code plus 2 jump stitches.

The value of sequin C is 4，we use 1 sequin code plus 3 jump stitches.

The value of sequin A+C is 5，we use 1 sequin code plus 4 jump stitches.

The value of sequin B+C is 6，we use 1 sequin code plus 5 jump stitches.

The value of sequin A+B+C is 7，we use 1 sequin code plus 6 jump stitches.

The value of sequin D is 8，we use 1 sequin code plus 7 jump stitches.

The value of sequin A+D is 9，we use 1 sequin code plus 8 jump stitches.

The value of sequin B+D is 10，we use 1 sequin code plus 9 jump stitches.

The value of sequin A+B+D is 11，we use 1 sequin code plus 10 jump stitches.

The value of sequin C+D is 12，we use 1 sequin code plus 11 jump stitches.

The value of sequin A+C+D is 13，we use 1 sequin code plus 12 jump stitches.

The value of sequin B+C+D is 14，we use 1 sequin code plus 13 jump stitches.

The value of sequin A+B+C+D is 15，we use 1 sequin code plus 14 jump stitches.

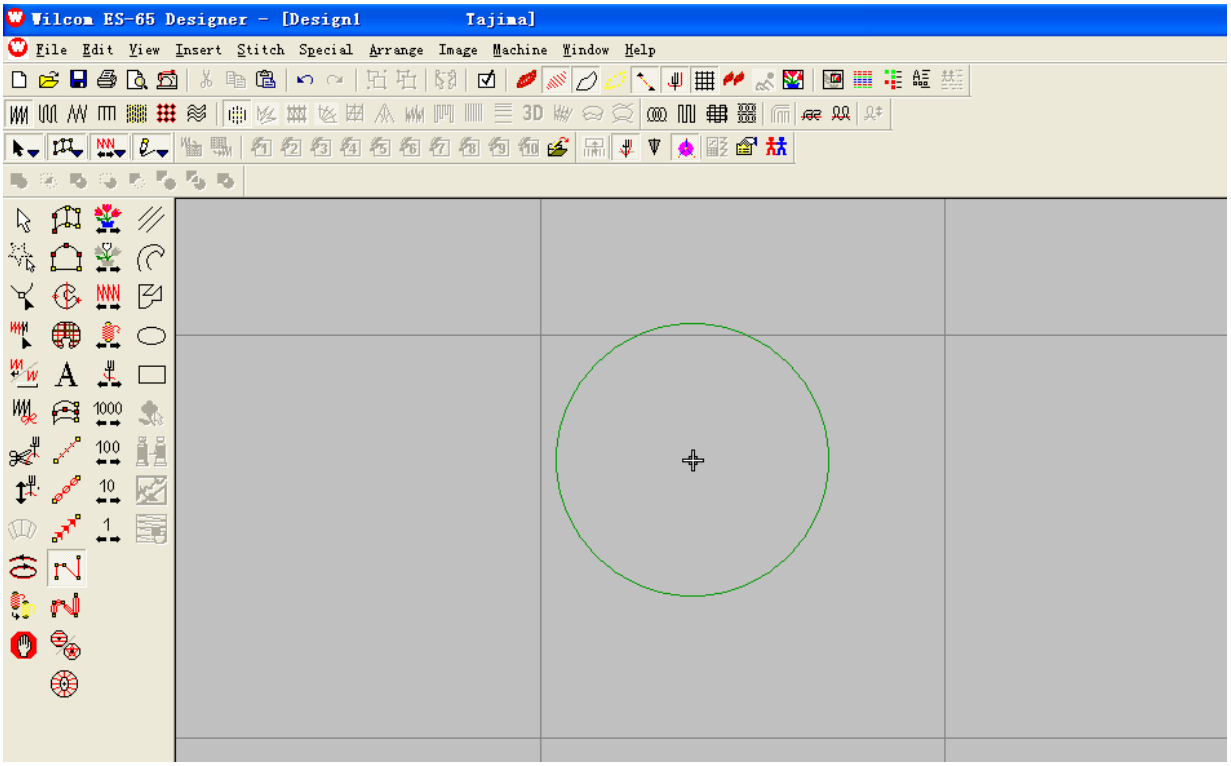
2、 Making trace for multi-sequin

By using trace, we can easily input sequin or sequin combinations. Example: A, B, A+B, C, A+C, B+C, A+B+C, D, A+D, B+D, A+B+D, C+D, A+C+D, B+C+D, A+B+C+D, etc.

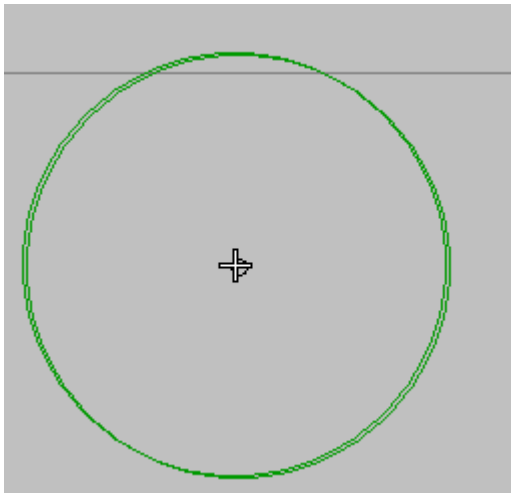
We here take sequin B designing as an example.

1) Open any design making software. First we zoom in the blank to certain scale（it is for easily input sequins in a place）and go into sequin state.

2) Input a sequin.



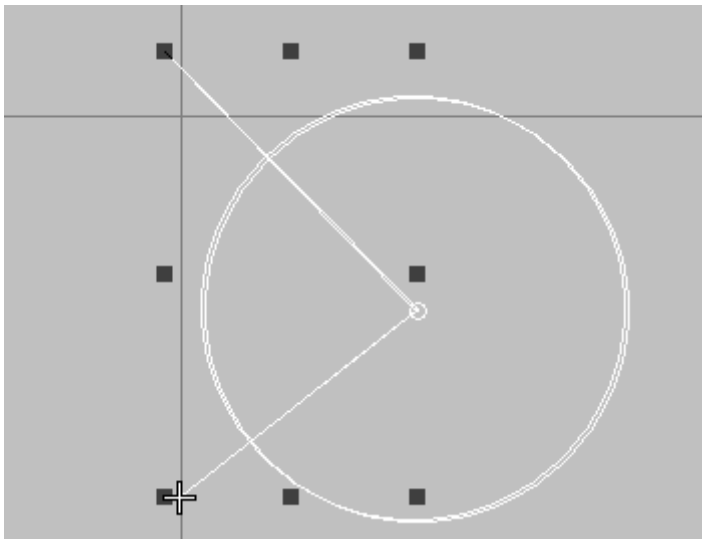
3) Since the value of sequin B is 2, we should put 2 sequins in here, which means, we have to add another sequin.



4) Continue to type in other single-stitches.

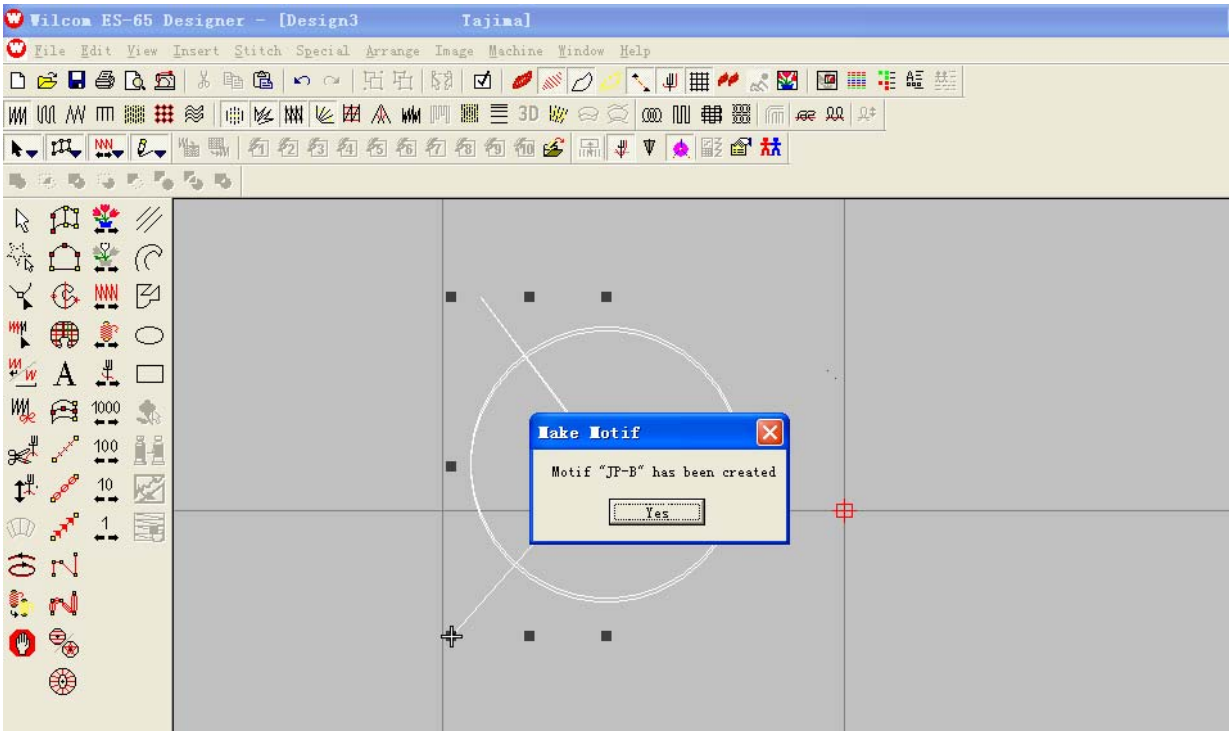
5) You can see “stitch list” shows 2 sequins as the following image.

6) Select all stitches.

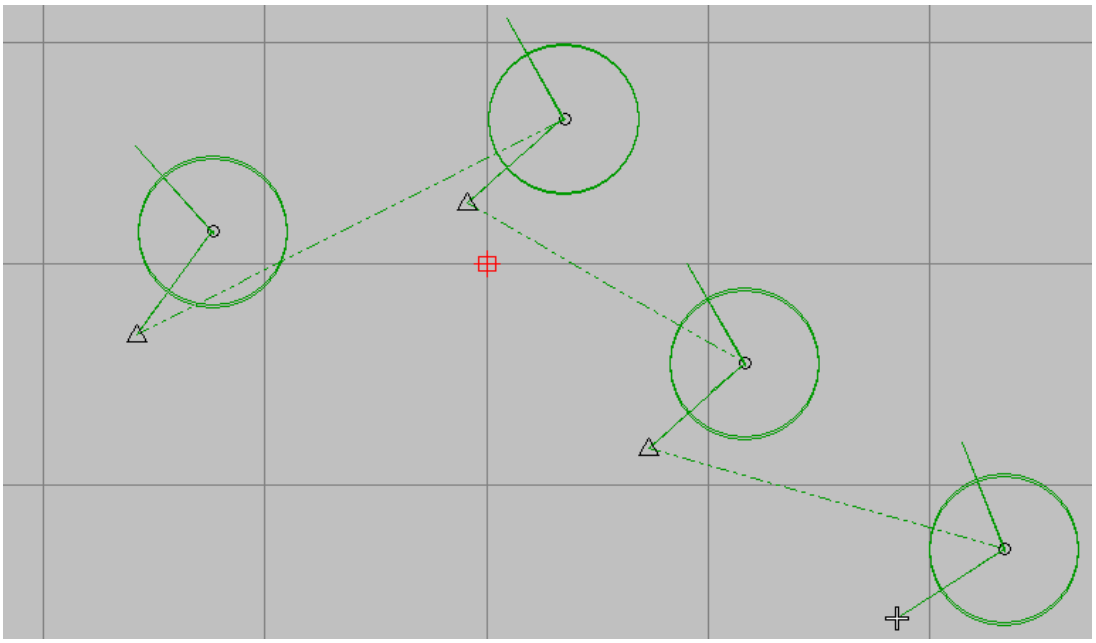


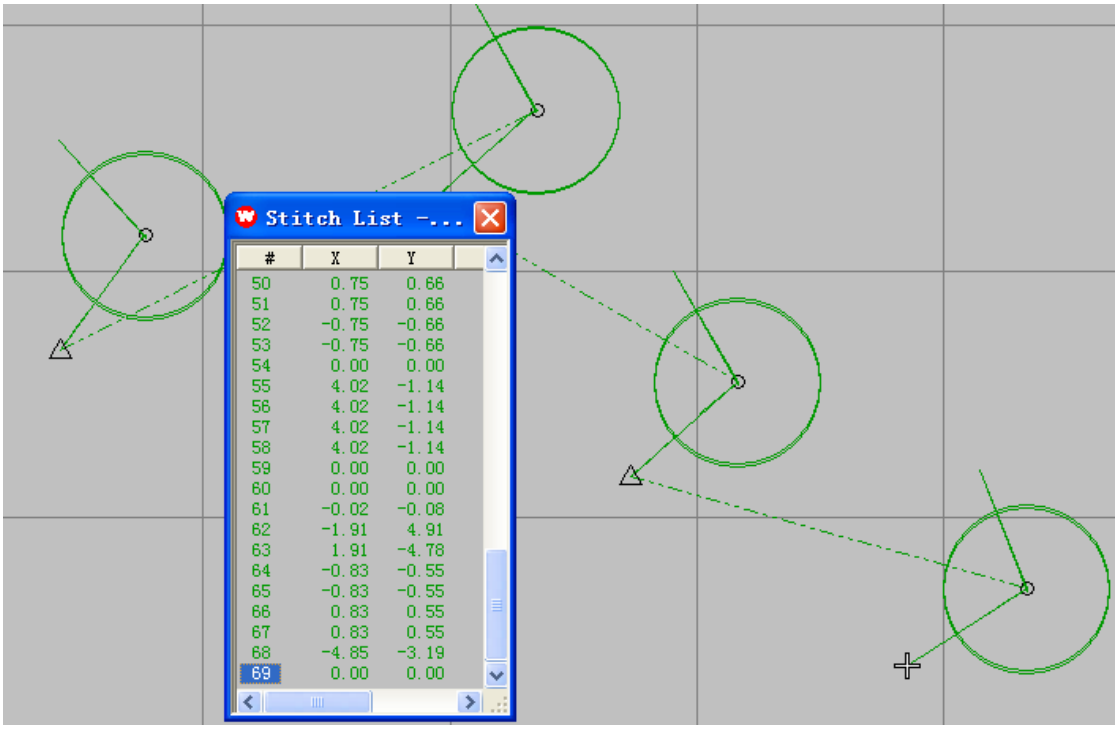
7) Making trace, group is JP, name is JP-B

8) Type in two reference point.


Wilcom ES-65 Designer - [Design3 Tajima]
File Edit View Insert Stitch Special Arrange Image Machine Window Help
Make Motif
Motif "JP-B" has been created
Yes

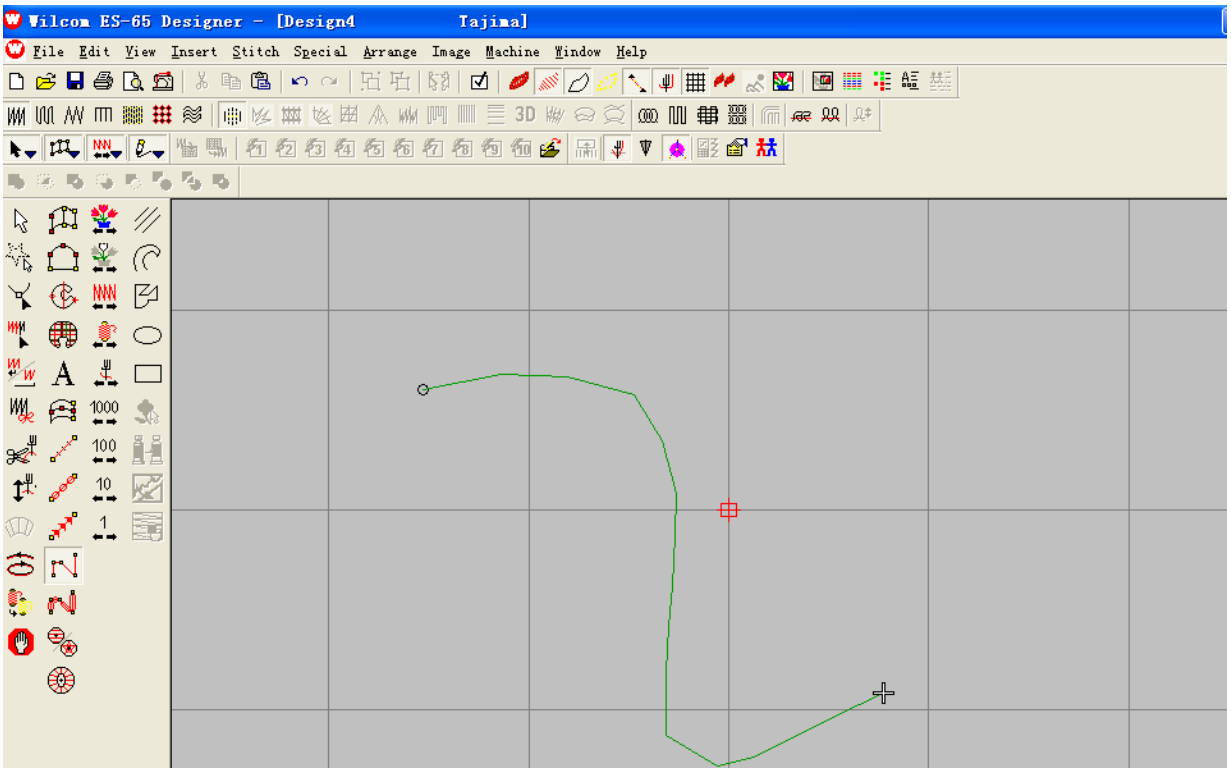
3、 **Single needle multi-sequin, you can use "stitch form -> trace -> apply". Then "manual stitch" to finish entering.**



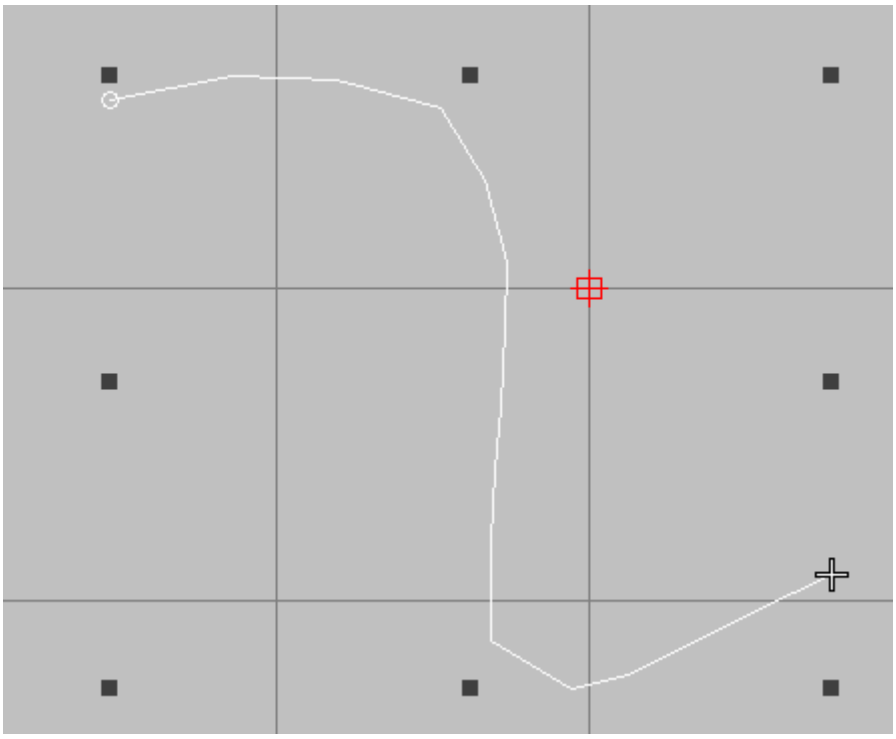


4、 Others (curve) can apply trace too.

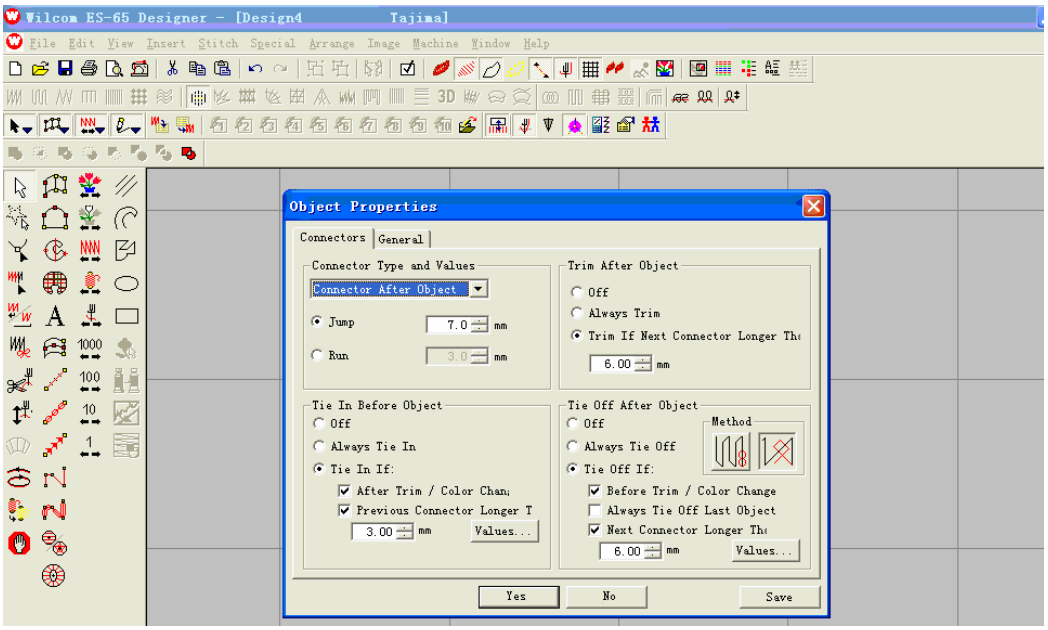
1) Click sequin button to enter “sequin state” (this is to ensure all the curve course have sequin). Enter the curve as the following.

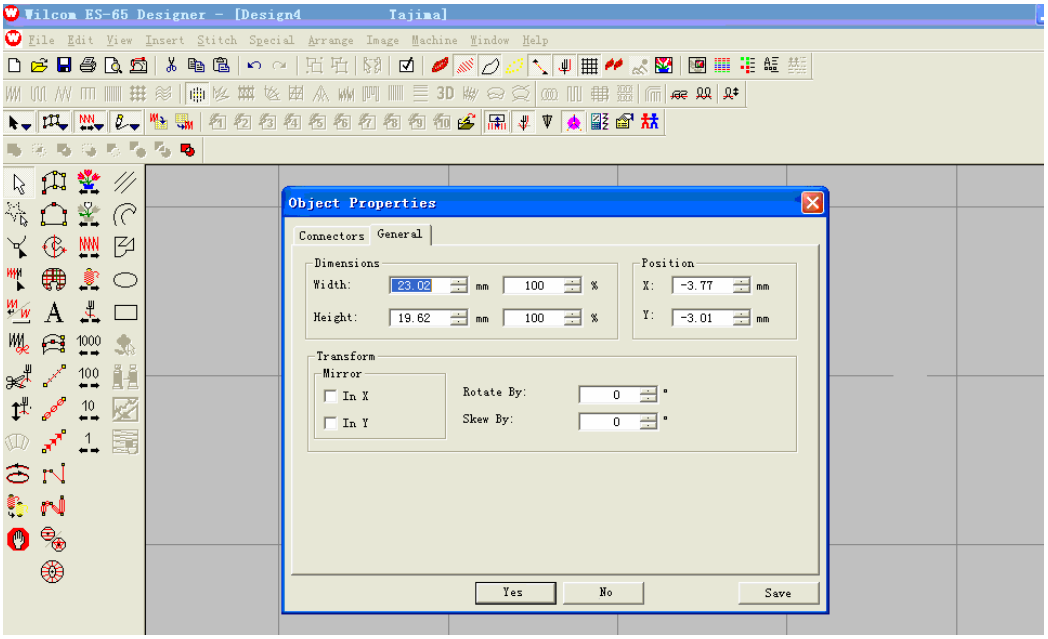


2) Select a target.



3) Set “target properties” and select related trace.



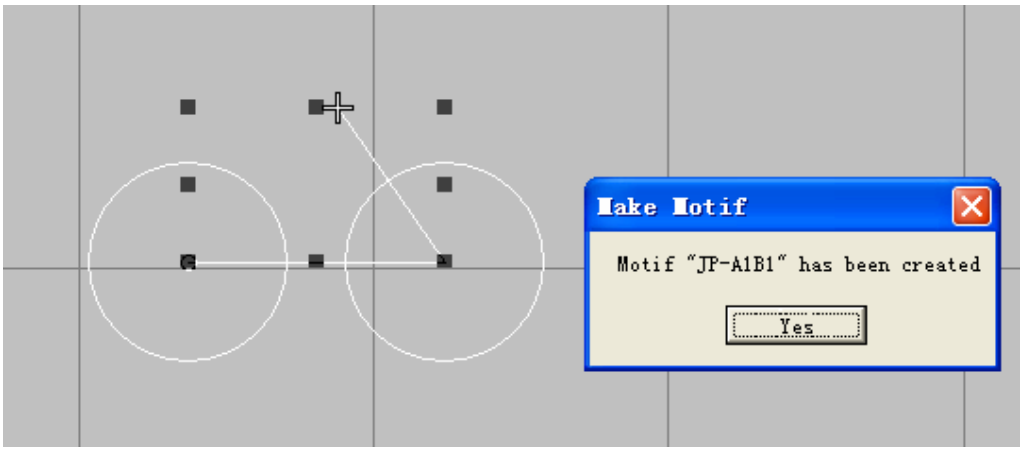


4) “Multi-sequin” input is finished.

5、 Making alternate sequin

This is to realize embroidering of different sequin alternate. For instance, A1B1 embroidery to realize embroidering A, B, A, B…

1) First you should design alternate trace. As the following A1B1 alternate design:



2) Apply the above trace to achieve alternate A1B1.

6、 Design maker should build up design data base

Now we have sequins: 3MM, 4MM, 5MM, 6.75MM and 9MM. while the first needle position can have 4 sequin delivery devices at most. So we can get the following 15 combinations: A,B,AB,C,AC,BC,ABC,D,AD,BD, ABD,CD,ACD,BCD,ABCD.

The design data base emerges different sequin size with sequin combination.

If there are two sequin delivery devices A and B. A design document uses 3MM sequin and 5MM. Then the design data base should contain 3MM-A base, 5MM-B base, and 5MM-AB base. While the other design data base uses 4MM and 6.75MM, then the design data base should contain 4MM-A, 6.75MM-B and 6.75MM-AB.

If there are three sequin delivery devices A, B and C. A design document uses 3MM, 4MM and 6.75MM, then the design data base should contain 3MM-A base, 4MM-B base, 4MM-AB base, 6.75MM-C base, 6.75MM-AC base, 6.75MM-BC base and 6.75MM-ABC base. While the other design data base uses 3MM, 6.75MM and 9MM. Then the design data base should contain 3MM-A base, 6.75MM-B base, 6.75MM-AB base, 9-C base, 9-AC base, 9-BC base and 9-ABC base.

Other sequin design data bases are as the same

The alternate sequin design data base should combine single and overlap sequins. For instance, 3MM-A sequin base and 4MM-AB sequin base can form alternate sequin of 3MM-A & 4MM-AB, which achieves embroidering effect of A, AB, A, AB…

7、 Normal sequin design to Dahao special sequin design

According to the above rules, we just need to insert some jump stitch after “sequin code” to change the original sequin code to “multi-sequin code”.

1) If you want to change the first sequin code to A+B sequin code, you need to locate to that stitch first（its character is to let down the sequin）.
2) Right click “insert jump stitch” twice to insert two jump stitches after the original sequin code.
3) You can see the stitch list as the following image. The first sequin is overlap A+B, the second one is sequin A.

Save as the TAJIMA DST document.

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